MHC-331/D2/G33

SERVICE MANUAL

US Model
MHC-331/D2

Canadian Model
MHC-331

E Model
Australian Model
MHC-G33

• MHC-331/D2/G33 are composed of following models.
As for the service manual, it is issued for each component model, then, please refer to it.

COMPONENTS MODEL NAME FOR THIS SYSTEM

SET	CD PLAYER/ TUNER/AMP	SPEAKER SYSTEM
MHC-331/G33	HCD-H331	SS-H551
MHC-D2	HCD-H331D	

SPECIFICATIONS

General

Power requirements
Australian model : 240V AC, 50/60Hz
US, Canadian, Mexican model : 120V AC, 60Hz
Other models : 110 – 120V or 220 – 240V AC, 50/60Hz
Adjustable with the voltage selector

Power consumption
US model : 60W
Other models : 70W

Dimensions
Approx. 280×325×360mm ($11^1/_8 \times 12^7/_8 \times 14^1/_4$in) (w/h/d)
incl. projecting parts and controls

Mass
Approx. 7kg (15 lb 7 oz)

Supplied accessories

AM loop antenna (1)
Remote RM-SD25 (1) (MHC-D2/G33)
RM-SC100P (1) (MHC-331)
Sony SUM-3 (NS) batteries (2)
FM lead antenna (1)

Design and specifications are subject to change without notice.

PARTS LIST

NOTE :
• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
	1-473-517-11	REMOTE COMMANDER (RM-SC100P) (MHC-331)	
	1-501-374-11	ANTENNA, LOOP	
	1-501-659-11	ANTENNA (FM)	
	3-810-947-11	MANUAL, INSTRUCTION (ENGLISH) (MHC-331)	
	3-810-947-21	MANUAL, INSTRUCTION (FRENCH) (MHC-331 : CND)	
	3-810-947-31	MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH,CHINESE) (MHC-G33)	
	3-810-947-41	MANUAL, INSTRUCTION (ENGLISH) (MHC-D2)	
*	4-979-371-01	COVER, BATTERY (for RM-SD25) (MHC-D2/G33)	
*	4-981-029-01	CUSHION (FRONT) (HCD)	
*	4-981-030-01	CUSHION (REAR) (HCD)	
*	4-981-329-01	CUSHION (SS-H551)	
	4-981-643-01	COVER, BATTERY (for RM-SC100P) (MHC-331)	
*	4-982-314-01	INDIVIDUAL CARTON (MHC-331)	
*	4-982-679-01	INDIVIDUAL CARTON (E, MX, AR)	
*	4-982-680-01	INDIVIDUAL CARTON (AUS)	
*	4-982-681-01	INDIVIDUAL CARTON (MHC-D2)	
	8-917-538-90	REMOTE COMMANDER (RM-SD25) (MHC-D2/G33)	

MINI Hi-Fi COMPONENT SYSTEM

SONY®

Sony Corporation
Consumer A&V Products Company
Home A&V Products Div.

9-960-571-11

English
96B0439-1D
Printed in Japan

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Published by Home A&V Products Div. Quality Engineering Dept.

HCD-H331/H331D

SERVICE MANUAL

Photo : HCD-H331

US Model
HCD-H331/H331D

Canadian Model
E Model
Australian Model
HCD-H331

● HCD-H331/H331D is the tuner, deck, CD and amplifier section in MHC-331, MHC-D2, MHC-G33.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

CD Section	Model Name Using Similar Mechanism	HCD-H881/H881D
	CD Mechanism Type	CDM38-5BD19
	Base Unit Name	BU-5BD19
Tape deck Section	Model Name Using Similar Mechanism	NEW
	Tape Transport Mechanism Type	TCM-YSW47C24

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS
POWER OUTPUT AND TOTAL HARMONIC DISTORTION :
with 6 ohm loads, both channels driven, from 40-20kHz ; rated 100 watts per channel minimum RMS power, with no more then 0.9 % total harmonic distortion from 250 milliwatts to rated output.

CD player section

System Compact disc and digital audio system
Laser Semiconductor laser
Laser output Max 44.6µW*
*This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Wavelength 780–790 nm
Frequency response
2Hz – 20kHz (± 0.5 dB)
Signal-to-noise ratio
More than 90 dB
Dynamic range
More than 90 dB

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range US, Canadian model :
87.5 - 108MHz (100kHz step)
EXCEPT US, Canadian model :
87.5 - 108MHz (50kHz step)
Antenna FM lead antenna
Antenna terminals
75 ohm unbalanced
Intermediate frequency
10.7 MHz

AM tuner section

Tuning range
US, Canadian model :
531-1,710kHz (with the tuning interval set at 9 kHz)
530-1,710kHz (with the tuning interval set at 10 kHz)
E, Argentine, Australian, Mexican model :
531-1,602kHz (with the tuning interval set at 9 kHz)
530-1,710kHz (with the tuning interval set at 10 kHz)
Antenna AM loop antenna
External antenna terminals
Intermediate frequency
450kHz

Amplifier section

US, Canadian model :
FTC 100W+100W (8ohm, 40-20kHz, 0.9% THD)
Continuous RMS power output
120W + 120W (8 ohm, 1kHz, 5% THD)
EXCEPT US, Canadian model :
Peak music power output
400W
Continuous RMS power output
20W + 20W (6 ohm, 1kHz, 10% THD)
Inputs
VIDEO IN (phono jacks) :
voltage 450 mV
impedance 47 kilohm
Outputs
PHONES (stereo phono jack) :
accepts headphones of 8 ohm or more
SPEAKER :
accepts impedance of 6 to 16 ohm
SUPER WOOFER :
voltage 1V, impedance 1 kilohms (HCD-H331 only)

–Continued on page 2–

MINI Hi-Fi COMPONENT SYSTEM

SONY®

MICROFILM

Tape player section

Recording system
4-track 2-channel stereo

Frequency response
(DOLBY NR OFF)
60 - 13,000 Hz (±3 dB),
using Sony TYPEI cassette
60 - 14,000 Hz (±3 dB),
using Sony TYPEII cassette

Wow and flutter
±0.15% W. Peak (IEC)
0.1% W. RMS (NAB)
±0.2% W. Peak (DIN)

Supplied accessories

AM loop antenna (1)
Remote RM-SC100P (1) (HCD-H331 : US, Canadian model)
Remote RM-SD25 (1) (EXCEPT HCD-H331 : US, Canadian model)
Sony SUM-3 (NS) batteries (2)
FM lead antenna (1)
Speaker cords (4)

General

Power requirements

Destination	Power requirements	Power consumption
US, Mexican model	120V AC,60Hz	70W
Canadian model		70VA
Australian model	240V AC, 50/60Hz	70W
E, Argentine model	110 - 120V/ 220 - 240V AC, 50/60Hz Adjustable with the Voltage Selector	70W

Dimensions Approx. 280x325x360 mm
($11^1/_8$x$12^7/_8$x$14^1/_4$ in)
(w / h/ d)
incl. projecting parts and controls

Mass US, Canadian model
Approx. 7kg (15 lb)
Other model
Approx. 9.0kg (19 lb 14 oz)

Design and specifications are subject to change without notice.

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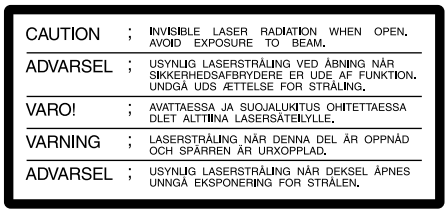
Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.


CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ; LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY-RELATED COMPONENT WARNING!!

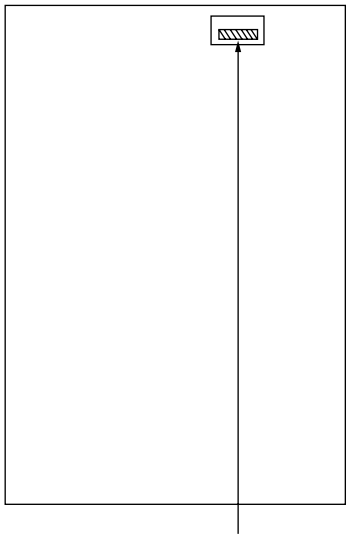
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION.
REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

MODEL IDENTIFICATION

– BACK PANEL–



4-979-270-0☐ : US model (H331)
4-979-270-1☐ : Canadian model
4-979-270-2☐ : US model (H331D)
4-979-271-0☐ : E model
4-979-271-1☐ : Australian model
4-979-271-2☐ : Mexican model
4-979-271-3☐ : Argentine model

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer :
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers).
Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

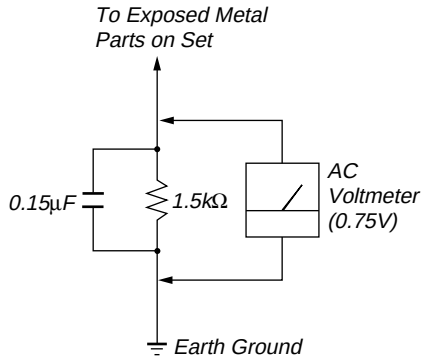


Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1
SERVICING NOTES

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

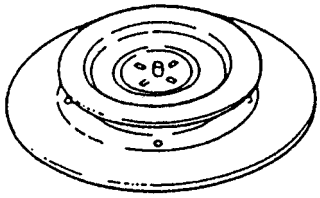
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe more than 30 cm away from the objective lens.

CHUCK PLATE JIG ON REPAIRING

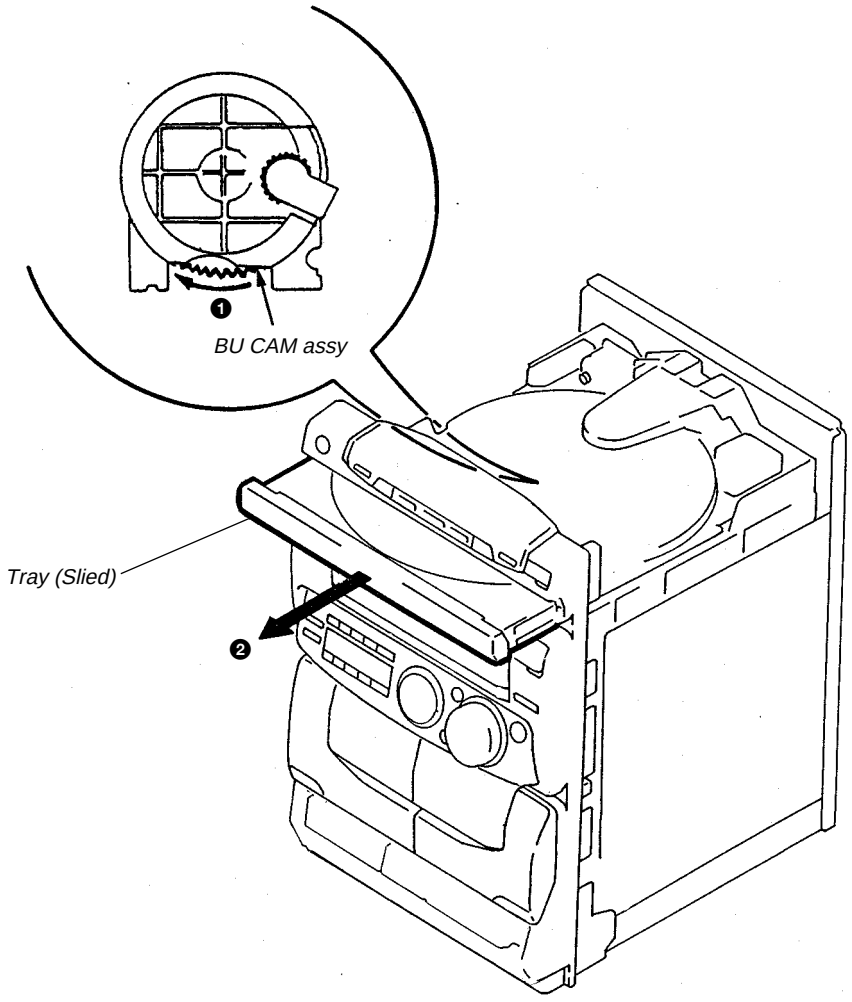
On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.

● Code number of Chuck Plate Jig : X-4918-255-1



● **Tray (Slide) getting out procedure on the power supply is OFF**

Rotate the BU CAM assembly in the direction of the arrow and pull out the slide.



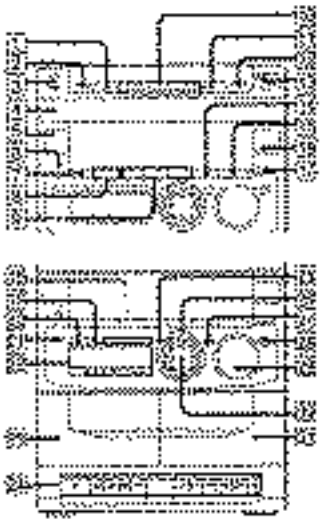
SECTION 2
GENERAL

This section is extracted from instruction manual.

Index to Parts and Controls

Refer to the page indicated to learn the details on how to use the controls. Controls with an asterisk have indications on the window.

Front Panel



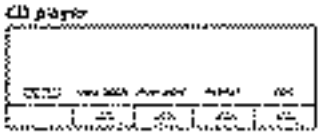
(1) DISC SKIP (DIG.TRANCE) button
(2) EXT button
(3) POWER button
(4) Display
(5) TIMER button
(6) PHONES jack
(7) DISPLAY/DEMO button
(8) SOUND(2BIT) button
(9) MENU/ENTER button
(10) DISC 1 – 5 buttons
(11) ▲ (open/close) button
(12) ■ (stop) button
(13) Display panel button*
(14) ▶II button
(15) EFFECT ON/OFF button*
(16) TUNER/BAND button
(17) FUNCTION button
(18) CUE A – C buttons*
(19) CUE BAND button
(20) CUE PLAY button
(21) QUALITY button
(22) MULTI FUNCTION CONTROL buttons
(23) Dock A
(24) Tape operating section:
- ▷ (play) button
- ◀◀ (reverse) button
- ▶▶ (fast forward) button
- ■ (stop/eject) button
- II (pause) button
- ● (rec) button (for deck B only)

(25) EQ EDIT button
(26) TUNER/NEXT button*
(27) SHIFT button
(28) CONCERT button*
(29) VOLUME button
(30) SELECT CONTROLLER
(31) Dock B

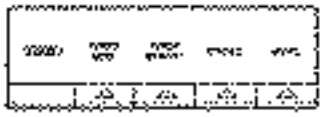
MULTI FUNCTION CONTROL buttons

The button you last operate for CD player, tuner and the tape deck lights up.

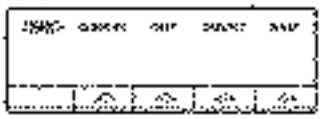
CD player



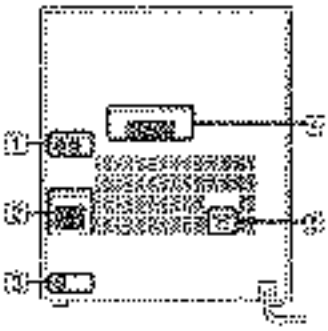
Tuner



Tape

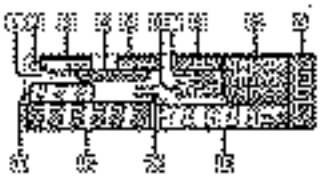


Rear panel



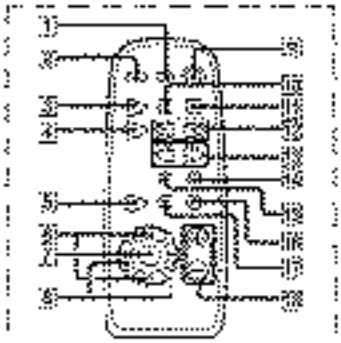
(1) VOLTAGE SELECTOR (HCD-H331)
(2) SPEAKER (2CH) connectors
(3) SUPER WOOFER jack (HCD-H331)
(4) ANTENNA terminals
(5) Voltage selector (except for Malaysia and Australian models)

Display Window



(1) Remote sensor
(2) Indicator
(3) Timer indicator
(4) Tuning indicators
(5) DOLBY NR indicator
(6) CD playback indicators
(7) MPX indicator
(8) CD indicator
(9) Music sensor
(10) VOLUME indicators
(11) Disc tray indicator
(12) Main display
(13) Tuner indicators
(14) Tape deck A (playback/recording) and (playback only) indicators

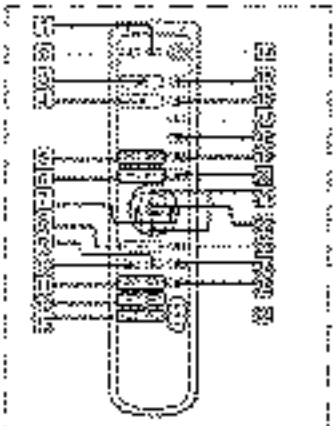
Remote (RM-S02S)



(1) CLOCK button
(2) SLEEP button
(3) CD ▷ button
(4) TUNER/BAND button
(5) DISC 1 – 5 buttons
(6) ⏮ / ⏭ buttons
(7) CUE A – C buttons
(8) ⏹ / ⏸ buttons
(9) MENU button
(10) ENTER button
(11) ▲ / ▼ (MENU parameter) buttons
(12) ◀ / ▶ (menu/time forward) buttons
(13) EXIT button
(14) DISPLAY button
(15) EFFECT ON/OFF button
(16) VOLUME + / – buttons

* Audio and Music Sensor

Remote (RM-SC100P)



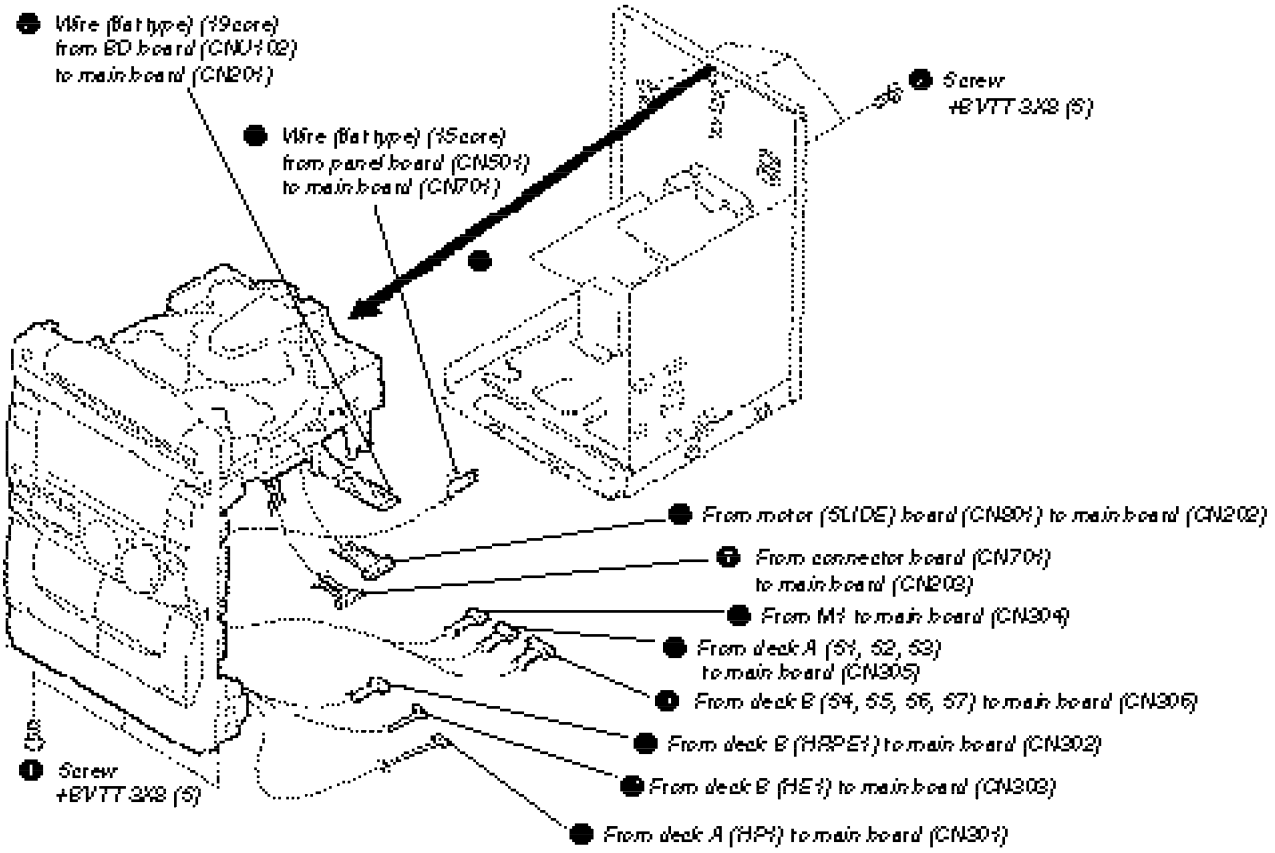
(1) CONCLUDE button
(2) SLEEP button
(3) CD ▷ button
(4) TUNER/BAND button
(5) ⏮/⏭ AMS*/CD1/SURROUND + button
(6) ⏮/⏭ CD2 button
(7) ▲/▼ buttons
(8) DISC CD1 button
(9) ⏹ (stop) button
(10) ⏸ (pause) button
(11) ⏮/⏭ AMS*/CD3 CD1 button
(12) ⏮/⏭ CD4 CD1 button
(13) EXIT/CD + / – CD2 button
(14) POWER button
(15) LOOP button
(16) CHECK/CLOCK button
(17) CLEAR/DISPLAY button
(18) SHIFT button
(19) ■ (stop) button
(20) II (pause) button
(21) ▲/▼ buttons
(22) MENU/ENTER/CD/VOL button
(23) REPEAT button
(24) DISC1 CD2–CD3 button
(25) SLEEP CD4 CD1 button
(26) VOLUME + / – button

* AMS=Auto Music Sensor

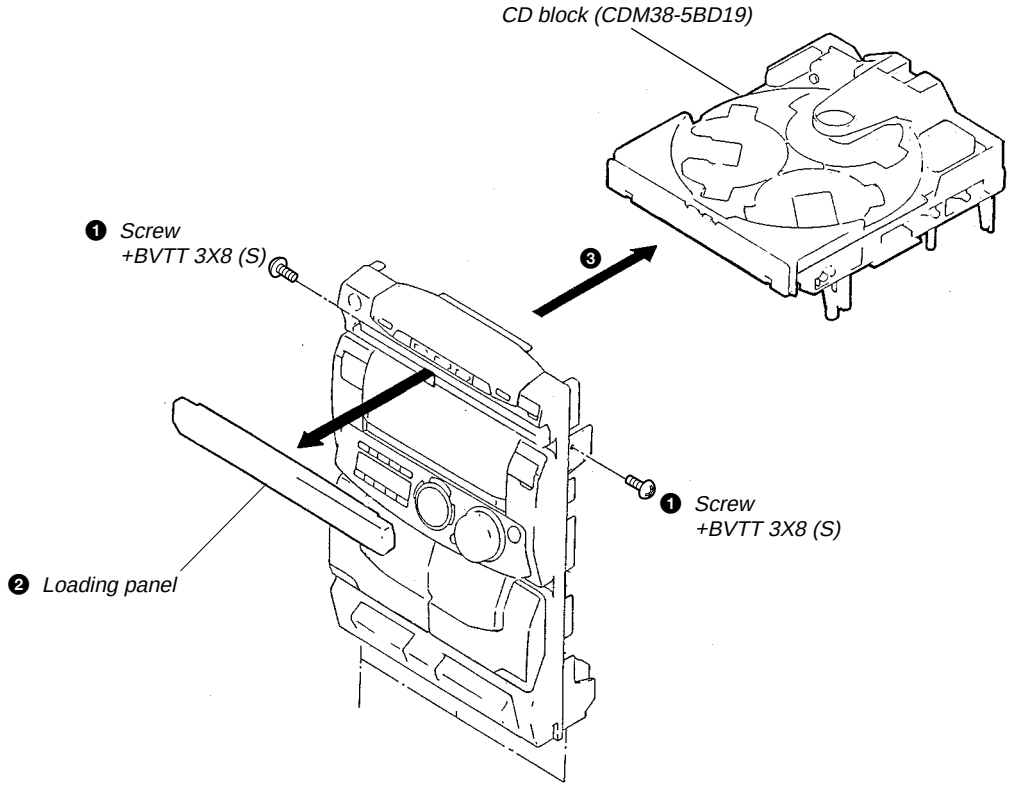
SECTION 3
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

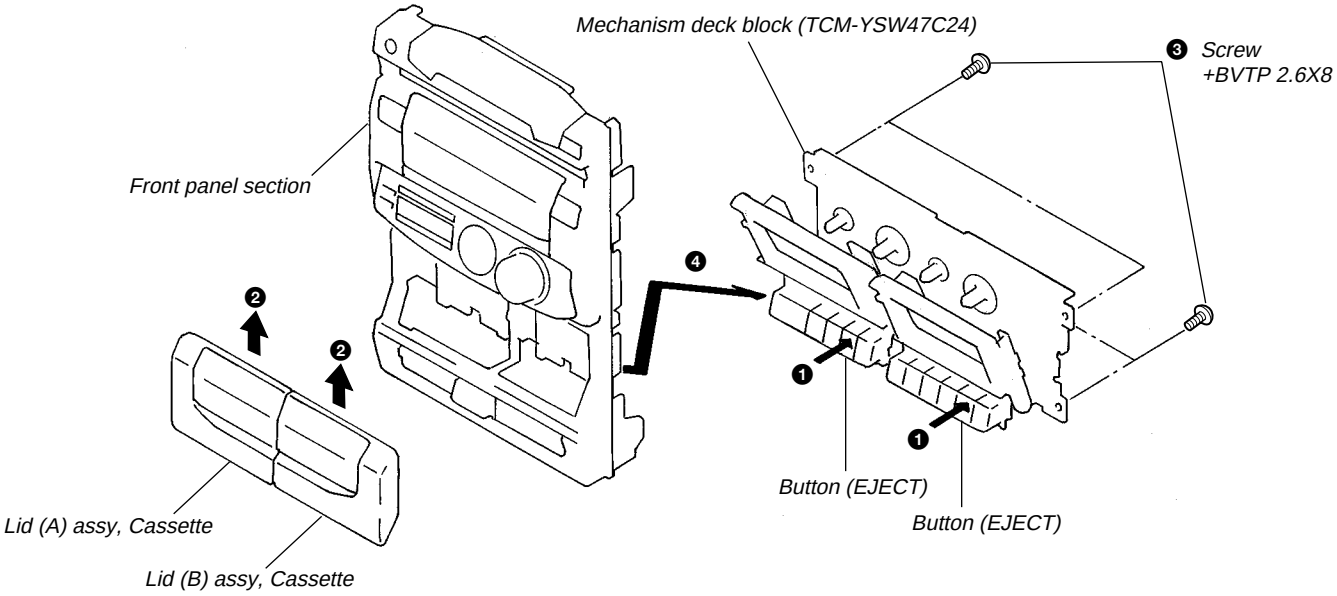
3-1. FRONT PANEL REMOVAL


Wire (flat type) (19core) from BD board (CN002) to main board (CN201)
Wire (flat type) (15core) from panel board (CN501) to main board (CN701)
Screw +BVTT 3X8 (S)
From motor (SLIDE) board (CN801) to main board (CN202)
From connector board (CN701) to main board (CN203)
From MI to main board (CN204)
From deck A (S1, S2, S3) to main board (CN305)
From deck B (S4, S5, S6, S7) to main board (CN306)
From deck B (HRPE1) to main board (CN302)
From deck B (HE1) to main board (CN303)
From deck A (HP1) to main board (CN301)
Screw +BVTT 3X8 (S)

3-2. CD BLOCK REMOVAL



3-3. LID (A)/(B) ASSY, CASSETTE, MECHANISM DECK BLOCK REMOVAL



SECTION 4
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head pinch rollers
   erase head rubber belts
   capstan
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

●Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	30 to 80 g • cm (0.42–1.11 oz• inch)
FWD Back Tension	CQ-102C	1.5 to 5.5 g • cm (0.021–0.076 oz• inch)
FF/REW	CQ-201B	55 to 130 g • cm (0.77–1.80 oz• inch)

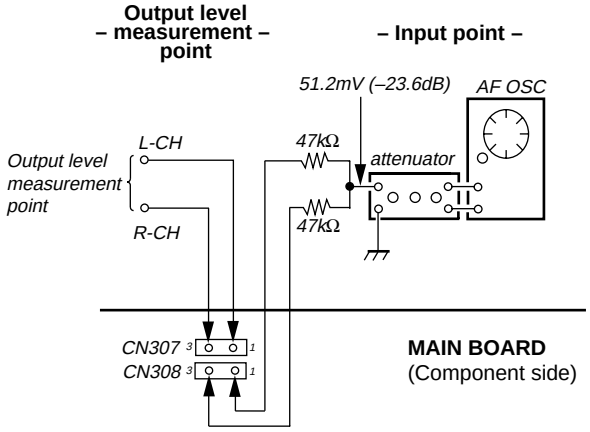
●Tape Tension Measurement

Torque Meter	Meter Reading
CQ-403A	more than 100g (more than 3.53 oz)

SECTION 5
ELECTRICAL ADJUSTMENTS

DECK SECTION

1. The adjustment should be performed in the publication. (Be sure to make playback adjustment at first.)
2. The adjustment and measurement should be performed for both L-CH and R-CH.
   ● Switch position
   DOLBY NR switch : OFF
   FUNCTION button : OFF
   EFECT switch : OFF
   DBFB switch : OFF
3. Input point and output level measurement point.



● **Tast tape**

Tape	Contents	Use
P-4-A100	10kHz, –10dB	Head Azimuth Adjustment
P-4-L300	315Hz, 0dB	Level Adjustment
WS-48B	3kHz, 0dB	Tape Speed Adjustment

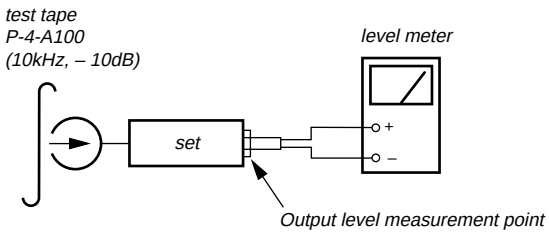
0db=0.775V

Record/Playback Head Azimuth Adjustment

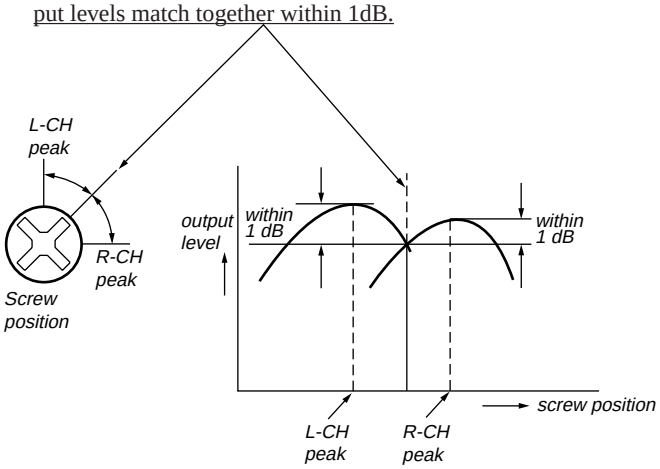
DECK A **DECK B**

Procedure :

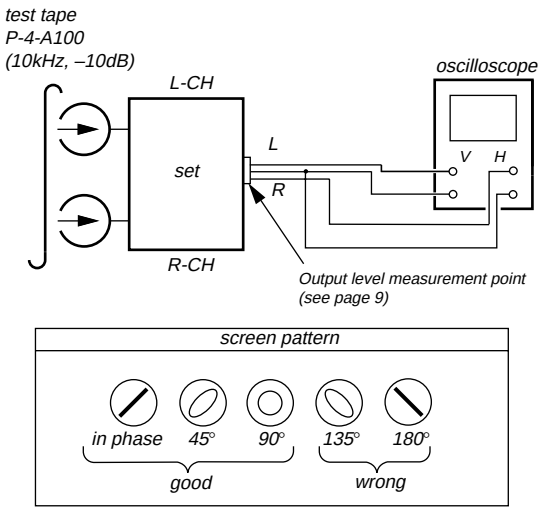
1. Mode : Playback



2. Turn the adjustment screw for the maximum output levels. If these levels do not match, turn the adjustment screw until both of output levels match together within 1dB.

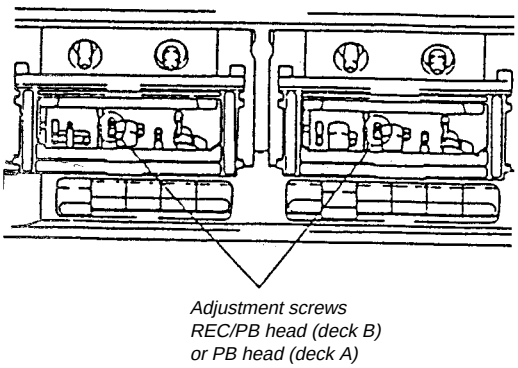


3. Mode : Playback



4. Change the review playback mode and repeat the steps 1 to 3.
5. After the adjustment, lock the adjustment screw with suitable locking compound.

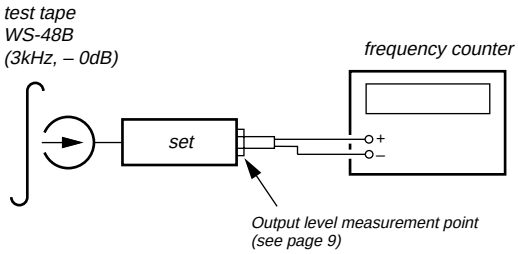
Adjustment Location :



Tape Speed Adjustment DECK A DECK B

Procedure :

Mode : Playback



1. Set to FWD playback mode.
2. Adjust RV380 so that the frequency counter reading becomes 3,000 ± 15Hz.

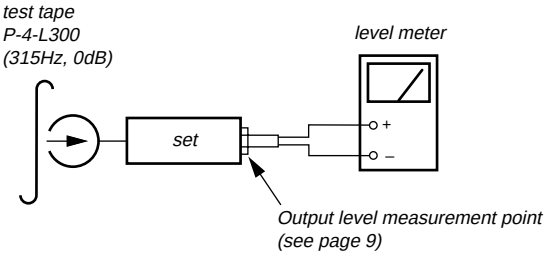
- Frequency difference between the begining and the end of the tape should be within ± 3%.
- Frequency difference between deck A and deck B the bigining of the tape should be within 1.5%.

Adjustment Location : MAIN board. (see page 11)

Playback Level Adjustment DECK A DECK B

Procedure :

Mode : Playback



Deck A is RV301 (L-CH) and RV401 (R-CH), deck B is RV302 (L-CH) and RV402 (R-CH) so that adjustment within adjustment level as follows.

Adjustment Level :

OUTPUT level : –7.2 to –8.2dB (– 301.5 to 338.3 mV)
level Difference between Channels : within 0.5dB

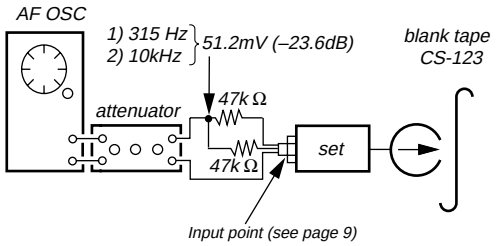
Comfrim the OUTPUT level does not change in playback mode while changing the mode from playback to stop several times.

Adjustment Location : MAIN board. (see page 11)

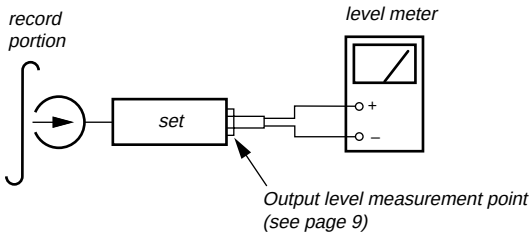
Record Bias Adjustment DECK B

Procedure :

1. Mode : record



2. Mode : Playback



3. Confirm playback the signal recorded in step1 become adjustment level as follows.
4. If these levels do not adjustment level, adjustment the RV304 (L-CH) and RV404 (R-CH) to repeat step 1 and 4.

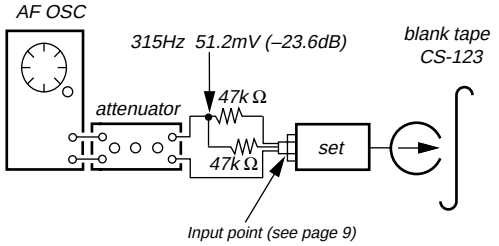
Adjustment level : Playback output of 315Hz to playback output of 10kHz : 0 ± 0.5dB

Adjustment Location : MAIN board.

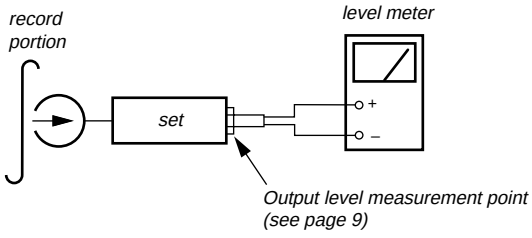
Record Level Adjustment DECK B

Procedure :

1. Mode : record



2. Mode : playback



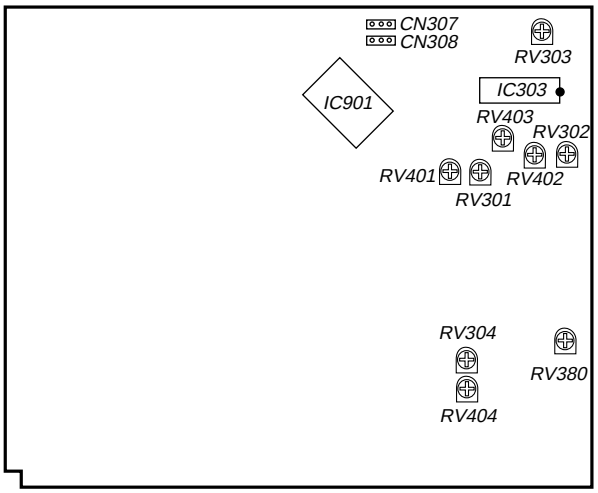
3. Confirm playback the signal recorded in step1 become adjustment level as follows.
4. If these levels do not adjustment level, adjustment the RV303 (L-CH) and RV403 (R-CH) to repeat steps 1 and 2.

Adjustment Level :
OUTPUT level : –23.3dB to –24.3dB (47.3 to 53.1mV)

Adjustment Location : MAIN board.

Adjustment Location :

[MAIN BOARD] – Component side –



CD SECTION

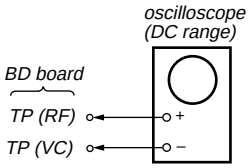
Note :

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

Focus Bias Adjustment

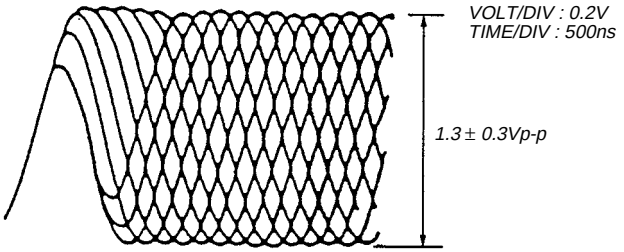
This adjustment is to be done when the optical block is replaced.

Adjustment procedure :



1. Connect oscilloscope to test point TP (VC) and TP (RF) on BD board.
2. Turned power switch ON. (Stop mode)
3. Put disc (YEDS-18) in and press the ▷II button.
4. Adjust RV101 so that the oscilloscope waveform is as shown in the figure below (eye pattern).
   A good eye pattern means that the diamond shape (◊) in the center of the waveform can be clearly distinguished.

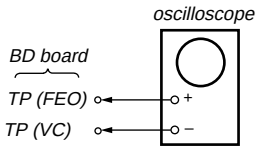
● RF signal reference waveform (eye pattern)



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

Adjustment Location : MAIN board. (see page 13)

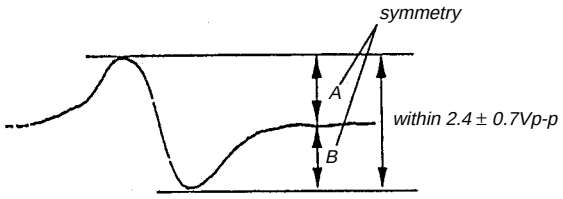
S-Curve Check



Procedure :

1. Connect oscilloscope to test point TP (VC) and TP (FEO) on BD board.
2. Connect between test point TP (FOK) and GND by lead wire.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and turned Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 2.4 ± 0.7Vp-p.

S-curve waveform

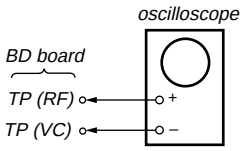


6. After check, remove the lead wire connected in step 2.

Note : ● Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.
● Take sweep time as long as possible and light up the brightness to obtain best waveform.

Adjustment Location : BD board. (see page 13)

RF Level Check



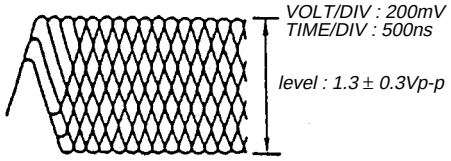
Procedure :

1. Connect oscilloscope to test point TP (VC) and TP (RF) on BD board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and press the ▷II button.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note :

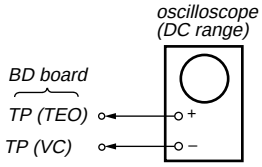
Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

● *RF signal waveform*



Adjustment Location : BD board. (see page 13)

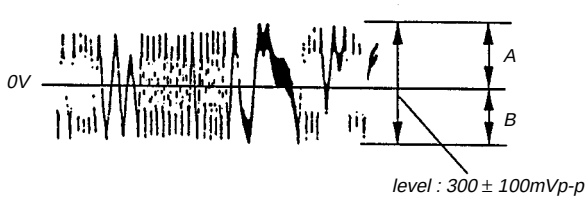
E-F Balance Check



Procedure :

1. Ground main board IC701 (pin ㊴) with the lead wire.
2. Connect oscilloscope to test point TP (VC) and TP (TEO) on BD board.
3. Turned Power switch on.
4. Put disc (YEDS-18) in and press the ▷II button.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse waveform



specified value : ● $\frac{A-B}{2\,(A+B)}$ X100 = less than ± 7%

● A+B = 300 ± 100mVp-p

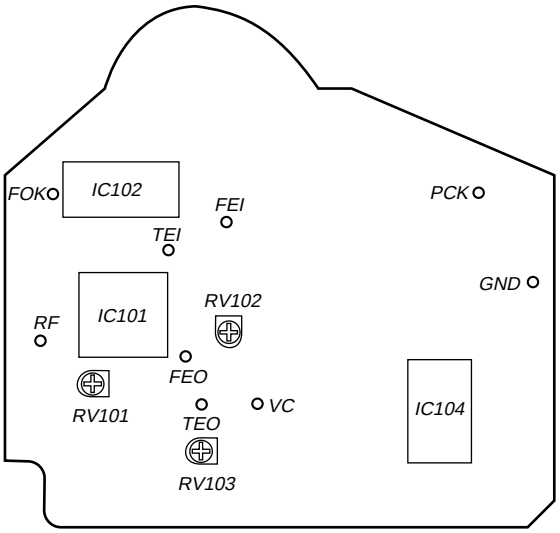
6. Remove the lead wire connected in step 1.

Focus/Tracking Gain Adjustment (RV102, RV103)

This gain has a margin, so even if it is slightly off. There is no problem.
Therefore, do not perform, this adjustment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

Adjustment Location :

[BD BOARD] (Conductor side)



SECTION 6
EXPLANATION OF IC TERMINALS

IC501 ASD042 (SYSTEM CONTROL /FL DRIVE)

Pin No.	Pin name	I/O	Description
1-7	GR1-7	O	FL grid signal output.
8	V_{DD}	–	+5V
9, 10	LED9, 10	O	LED drive signal open.
11	KEY SELECT	O	Not used. (Open)
12	VOL IN B	I	Volume encoder signal input.
13	REQ. GM	I/O	Request signal from/ to master control.
14	CLK MG	I	Serial clock input.
15	DATA GM	O	Serial data output.
16	DATA MG	I	Serial data input.
17	RESET	I	Reset signal input.
18	PANEL SW	I	CD door open detection input. Not used. (Open)
19	LED SELECT	O	LED select signal output.
20	AV_{SS}	–	Ground.
21-24	SPEANA IN1-4	I	Spectram analizer signal input. Not used (Ground)
25-28	KEY IN 1-4	I	Key matrix input.
29	AV_{DD}	–	+5V.
30	AVREF	–	
31	JOG IN B	I	Not used. (Ground)
32	XT2	I	Not used. (Open)
33	V_{SS}	–	Ground.
34	X1	I	X’tal (5MHz)
35	X2	O	
36, 37	LED7, 8	O	LED drive signal output.
38, 39	LED5, 6	O	Not used. (Open)
40-43	LED1-4	O	LED drive signal output.
44	VOL IN A	I	Volume encoder signal input.
45	JOG IN A	I	Not used. (Ground)
46	RDY MG	I	RDY signal from master control.
47	SIRCS IN	I	SIRCS signal input.
48	IC (VPP)	–	Ground connection.
49-51	LEDS11-13	O	LED drive signal output.
52	V_{DD}	–	Not used.
53-70	SEG5-22	O	FL segment signal output.
71	V. LOAD	–	–25V for FL
72-75	SEG1-4	O	FL segment signal output.
76-80	GR8-12	O	FL grid signal output

● Abbreviation

FL : FLUORESCENT INDICATOR TUBE

IC701 TMP87CS64YF-6397 (FORMER TYPE) (MASTER CONTROL)
IC701 TMP87CS64YF-6417 (NEW TYPE) (MASTER CONTROL)

Pin No.	Pin name	I/O	Description
1	Vss	–	Ground.
2	X OUT	O	Oscillator connection terminal (10MHz).
3	X IN	I	Oscillator connection terminal (10MHz).
4	$\overline{\text{RESET}}$	I	Reset signal input terminal. L : RESET
5	X OUT	O	Oscillator connection terminal (32KHz).
6	X IN	I	Oscillator connection terminal (32KHz).
7	GND (TEST)	–	Not used (Ground).
8	$\overline{\text{AC CUT}}$	I	Power supply DET input terminal.
9	SUPER WOOFFER ON	O	SUPER WOOFFER ON/OFF control.
10	ST MUTE ON	O	TUNER Mute ON/OFF control.
11	$\overline{\text{180 A PLAY}}$	I	Deck-A play detect.
12	$\overline{\text{180 B PLAY}}$	I	Deck-B play detect.
13	$\overline{\text{180 B REC}}$	I	Deck-B record detect.
14	CLOSE (DOOR-SW)	I	Not used (H level).
15	$\overline{\text{BD UP (5CD)}}$	I	UP/DOWN MOTOR control. Not used (Ground).
16	$\overline{\text{TRY CLOSE (1CD)}}$	I	Not used (Ground).
17 – 19	ENCODER 1 – 3	I	Rotary encoder input terminal.
20	$\overline{\text{OUT SW OPEN}}$	I	Loading out switch input.
21	LOAD IN	O	Loading Motor control output (Loading input).
22	LOAD OUT	O	Loading Motor control output (Loading output).
23	TBL-L	O	Table motor control output.
24	TBL-R	O	Table motor control output.
25	SCOR	I	Sub code SYNC input from DSP (IC103).
26	TBL SENS	I	Table Sensor input.
27	RDS INT	I	RDS DATA START signal input. Not used (Ground).
28	RDS DATA	I	RDS DATA input. Not used (Ground).
29	DF LAT	O	Latch output to the digital filter (IC104).
30	SENS	I	Sens signal input from the DSP (IC103).
31	$\overline{\text{XRST}}$	O	CD reset signal output terminal.
32	$\overline{\text{MG • RDY}}$	I/O	System control (IC500) with Ready signal input/output. L : Ready
33	$\overline{\text{ADJ}}$	I	CD test mode terminal. L : ADJ Mode
34	$\overline{\text{GM REQ}}$	I	Data transmission request input from system control (IC500).
35	MG CLK	O	Clock output for communications with system control (IC500).
36	GM DATA	I	Serial data input from system control (IC500).
37	MG DATA	O	Serial data output to system control (IC500).
38	CD CLK	O	Serial data transfer clock output to DSP (IC103) and digital filter (IC104).
39	$\overline{\text{ADJ 2}}$	I	CD test mode terminal. L : ADJ 2 Mode
40	CD DATA	O	Serial data output to DSP (IC103) and digital filter (IC104).
41	AUB IN	O	Not used (Open).
42	AUB OUT	O	Not used (Open).
43	FOCUS SW	O	High-pass gain select output of the focus servo.
44	SQ CLK	O	Sub code Q read clock output to the DSP (IC103).
45	SQ DATA	I	Sub code Q data input from DSP (IC103).

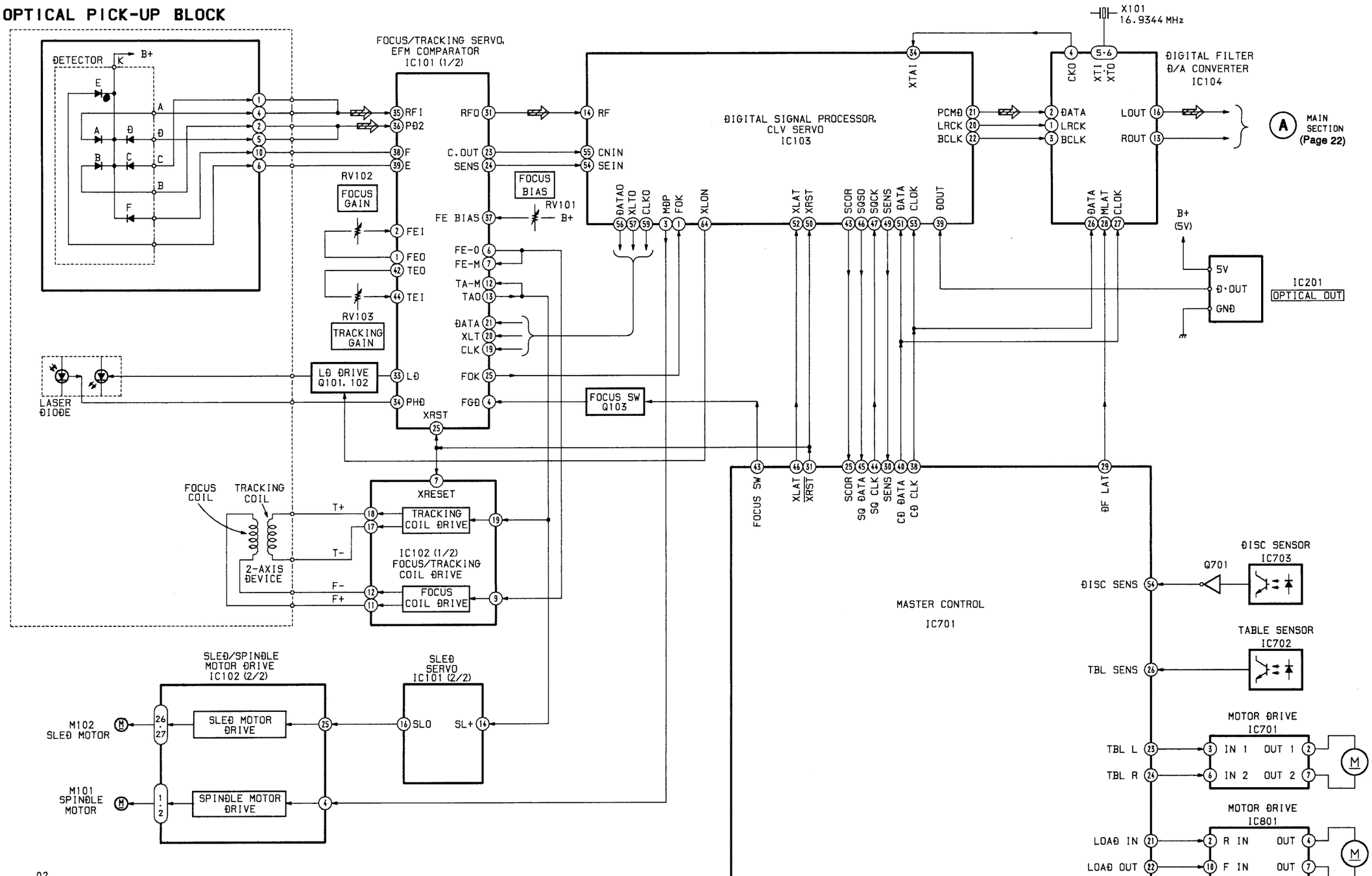
Pin No.	Pin name	I/O	Description
46	X-LAT	O	Serial data latch output to the DSP (IC103).
47	TEST	O	Terminal for test mode.
48	VAREF	–	Reference Voltage for A/D converter. (+5V)
49	VASS	–	Ground for analog (Ground).
50	VSS	–	Ground .
51	VDD	–	Power supply. (+5V)
52	SPEC	I	Terminal for mechanism selection.
53	DESTINATION	I	Terminal for model selection.
54	DISC SENS	I	Disc Sensor input terminal.
55	TC RELAY	O	REC/PB head selector signal output.
56	A-SHUT	I	Deck-A reel table detect. Not used.(Ground)
57	B-SHUT	I	Deck-B reel table detect. Not used.(Ground)
58	B-HALF	I	Deck-B cassette detect. Not used.(Ground)
59	A-HALF	I	Deck-A cassette detect. Not used.(Ground)
60	220 A PLAY	I	Deck-A play detect. Not used.(Ground)
61	220 B PLAY	I	Deck-B play detect. Not used.(Ground)
62	62427-LAT	O	Serial data latch output to IC 901.
63	K-CON-LAT	O	Not used (Open).
64	VOL-LAT (AV)	O	Not used (Open).
65	FRONT • SP RELAY B	O	Front speaker Relay Drive output. Not used (Open)
66	REAR • SP RELAY C	O	Rear speaker Relay Drive output. Not used (Open)
67	$\overline{\text{POWER ON}}$	O	Power ON output. L : ON
68	CD POWER	O	CD power switch output.
69	$\overline{\text{PROLOG LAT}}$	O	Not used (Open).
70	$\overline{\text{MUTE}}$	O	Mute ON/OFF control. L : Mute ON
71	COM CLK	O	System clock (COM) output.
72	COM DIN	I	Serial data input from tuner.
73	COM DATA	O	Serial data (COM) output.
74	$\overline{\text{K-COM-ON}}$	O	Not used (Open).
75	RIDDED LED	O	Not used (Open).
76	PROLOG ON	O	Not used (Open).
77	$\overline{\text{DBFB HIGH}}$	O	DBFB LOW/HIGH control. L : DBFB High
78	$\overline{\text{URG STB STD BY}}$	O	Not used (Open).
79	$\overline{\text{URG SIG ON}}$	O	Not used (Open).
80	$\overline{\text{TC-A}}$	O	Deck A/B Selection output. L : Deck-A
81	$\overline{\text{NORM}}$	O	NORMAL/HIGH Selection output. Not used (Open).
82	$\overline{\text{BIAS OFF}}$	O	Bias ON/OFF Selection output. L : Bias OFF
83	$\overline{\text{REC MUTE}}$	O	REC Mute ON/OFF Selection output. L : Mute ON
84	$\overline{\text{NR OFF}}$	O	NR ON/OFF Selection output. L : NR OFF
85	$\overline{\text{PB}}$	O	REC/PB Selection output. L : PB
86	$\overline{\text{PASS • AMP/DOLBY}}$	O	Dolby pass signal output.
87	$\overline{\text{LINE MUTE ON}}$	O	Line mute signal output. L : Mute ON
88	$\overline{\text{CAP • M HIGH}}$	O	Capstan moter HIGH/LOW Selection output. Not used (Open).
89	A – TRG	O	Trigger motor control output. Not used (Open).
90	B – TRG	O	Trigger motor control output. Not used (Open).

Pin No.	Pin name	I/O	Description
91	$\overline{\text{TRG LOW}}$	O	Trigger motor HIGH/LOW control output. Not used (Open).
92	$\overline{\text{CAP • M ON}}$	O	Capstan motor ON/OFF control output. Not used (Ground).
93	$\overline{\text{STEREO}}$	I	FM/AM Stereo identification. L : Stereo
94	$\overline{\text{TUNED}}$	I	FM/AM Tuning identification. L : Tuning
95	ST-CE	O	Chip enable output to Tuner.
96	$\overline{\text{DELAY SEL • MIC}}$	O	Not used (Ground).
97	$\overline{\text{DELAY ON}}$	O	Delay ON/OFF control output. Not used (Ground).
98	DELAY LEVEL-A	O	Delay level control output. Not used (Ground).
99	DELAY LEVEL-B	O	Delay level control output. Not used (Ground).
100	V_{DD}	–	Power supply. (+5V)

SECTION 7
DIAGRAMS

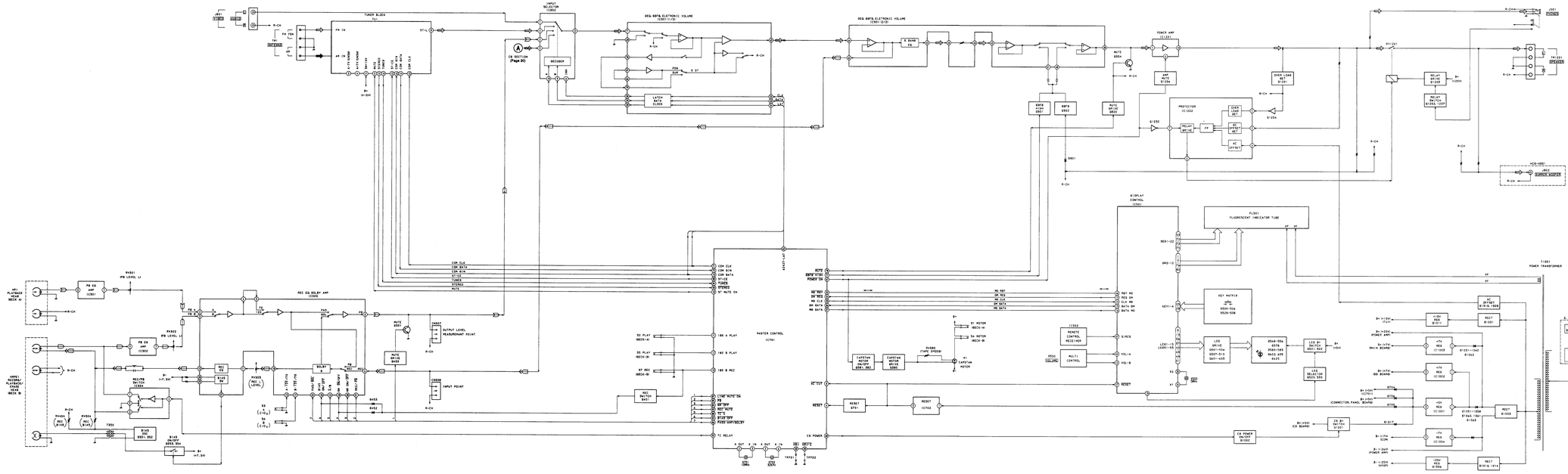
7-1. BLOCK DIAGRAM –CD SECTION–

OPTICAL PICK-UP BLOCK

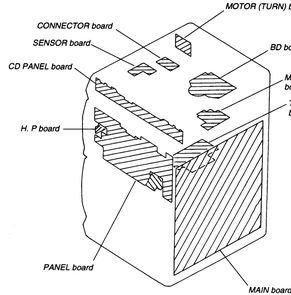


02

7-2. BLOCK DIAGRAM –MAIN SECTION–



7-3. CIRCUIT BOARDS LOCATION



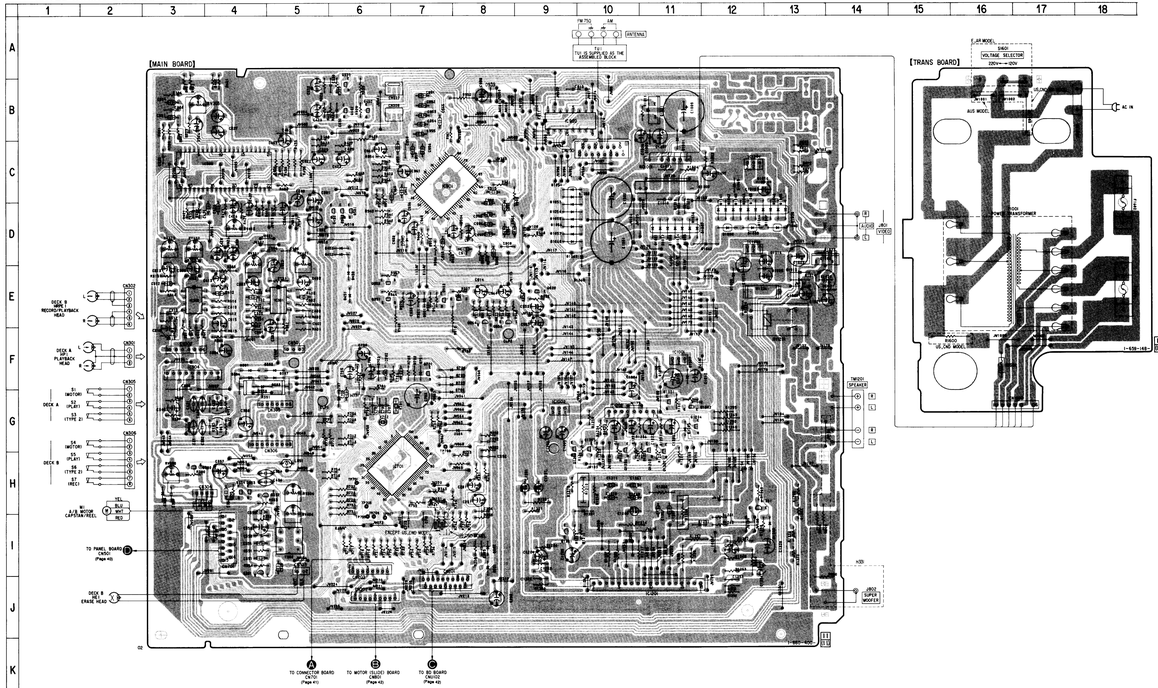
● SEMICONDUCTOR LOCATION

Ref. No.	Location	Ref. No.	Location
D201	I-8	D1059	E-12
D202	I-8	D1060	D-9
D381	F-4	D1061	D-10
D382	F-5		
D383	F-4	D1062	D-12
		D1063	E-10
D384	G-8	D1069	C-12
D385	H-3	D1201	H-10
D386	F-4	D1202	I-13
D387	F-5		
D450	E-6	D1204	E-12
		D1205	G-11
D451	E-6	D1251	I-11
D452	D-6	D1309	D-11
D453	D-6	D1310	D-11
D701	F-7		
D702	F-6		
		IC301	E-5
D703	F-8	IC302	E-3
D704	G-8	IC303	C-4
D705	F-8	IC304	F-3
D706	F-8	IC701	H-7
D707	G-6		
		IC702	F-6
D708	F-8	IC802	B-9
D901	E-7	IC901	C-7
D939	B-8	IC1001	F-11
D940	D-7	IC1002	G-9
D1001	B-11		
		IC1003	D-12
D1003	C-11	IC1004	C-12
D1007	F-11	IC1201	J-11
D1008	B-11	IC1202	Q-10
D1009	E-13		
D1010	C-12		
		Q301	B-6
D1013	E-13	Q351	I-4
D1014	E-13	Q352	H-5
D1017	F-11	Q353	H-4
D1023	E-14	Q354	H-4
D1031	D-11		
		Q380	H-3
D1032	D-11	Q381	D-6
D1033	D-11	Q382	D-6
D1034	D-11	Q401	B-6
D1035	D-11	Q450	B-6
D1036	D-11		
		Q451	D-6
D1037	D-11	Q701	F-7
D1038	D-12	Q820	E-9
D1039	D-12	Q901	E-8
D1040	D-13	Q902	E-7
D1041	D-12		
		Q951	E-6
D1042	D-12	Q952	E-6
D1043	D-12	Q953	E-8
D1044	D-12	Q954	E-8
D1045	D-12	Q1001	G-11
D1046	D-12		
		Q1002	G-11
D1047	D-12	Q1006	D-14
D1048	D-13	Q1011	B-11
D1049	D-13	Q1201	I-9
D1050	D-13	Q1202	G-11
D1051	C-9		
		Q1203	G-10
D1052	C-9	Q1204	G-11
D1053	D-9	Q1205	G-10
D1054	D-9	Q1206	G-9
D1055	D-9	Q1207	H-11
D1056	D-9		
D1057	D-9		
D1058	F-10		

Note:

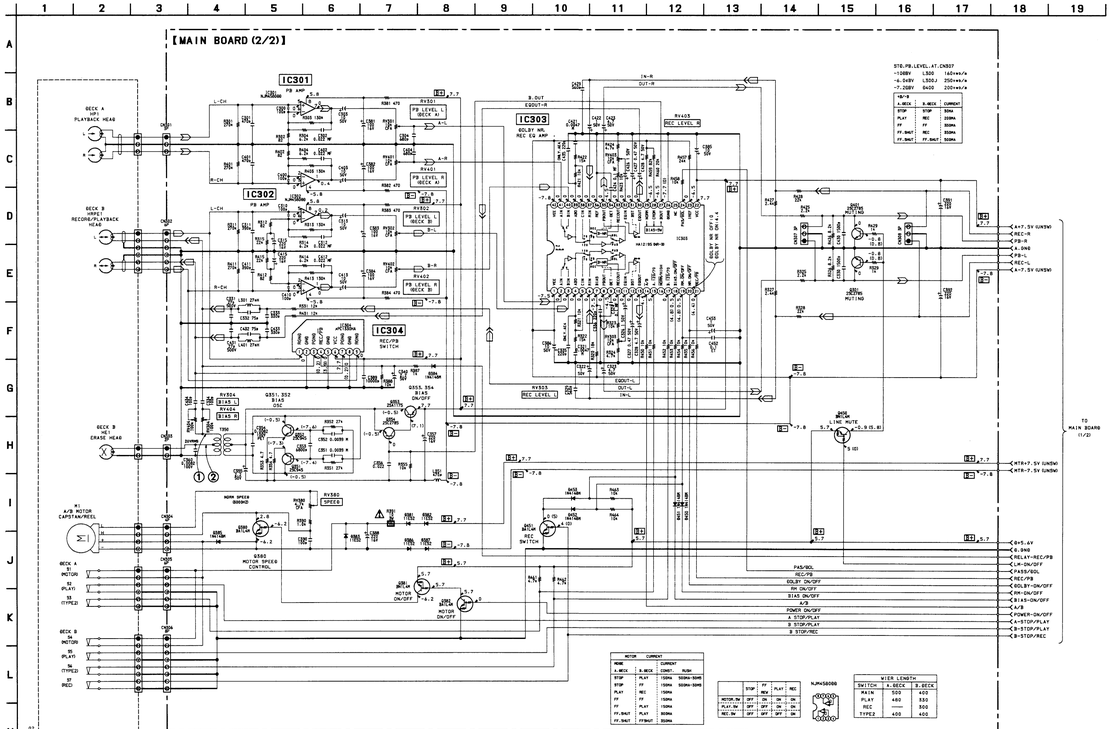
- ○— : parts extracted from the component side.
- ▨ : Pattern on the side which is seen.
- Abbreviation
  CND : Canadian
  AUS : Australian
  AR : Argentine
  MX : Mexican
  MY : Malaysia

7-4. PRINTED WIRING BOARDS –MAIN SECTION–

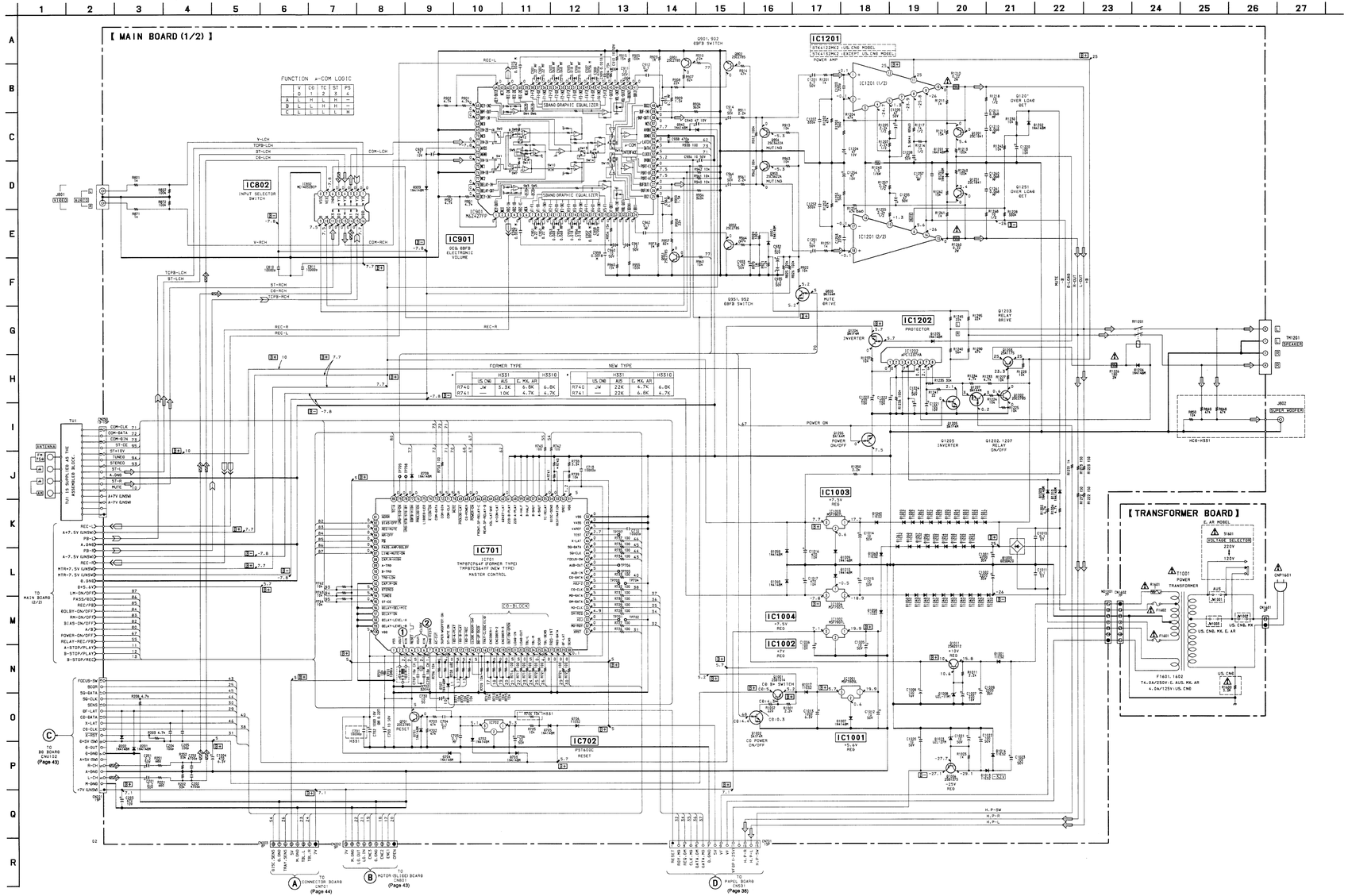


7-5. SCHEMATIC DIAGRAM –MAIN SECTION (2/2)–

● Refer to page 46 for IC Block Diagrams. ● Refer to page 31 for Waveforms.

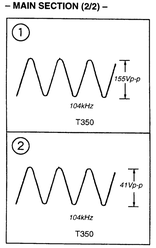


【 MAIN BOARD (1/2) 】

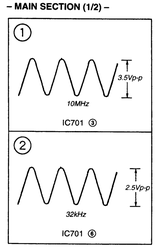


【 TRANSFORMER BOARD 】

WAVEFORMS
– MAIN SECTION (2/2) –



WAVEFORMS
– MAIN SECTION (1/2) –



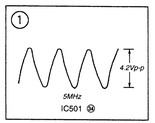
Note :

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- △ : internal component.

Note :	Note :
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.	Les composants identifiés parunis marque △ osont critiques pour la sécurité. Ne les remplacer que par unepièce portant le numéro spécifié.

- [B+] B+ Line
- [B−] B− Line
- ▭ adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : FM ⇨ : PB (DECK A)
  ⇨ : CD ⇨ : PB (DECK B)
  ⇨ : REC (DECK B)
- Abbreviation
  CND : Canadian
  AUS : Australian
  AR : Argentine
  NX : Mexican
  MY : Malaysia

WAVEFORM
– PANEL SECTION –

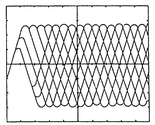


Note :

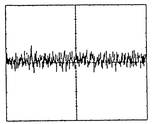
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- Δ : internal component.
- B+ : B+ Line
- B− : B− Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
  no mark : FM
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

WAVEFORMS
– BD SECTION –

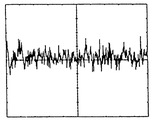
① IC101 ㉕pin 1.4Vp-p



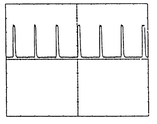
② IC101 ㉖pin 8mVp-p 0.2ms/DIV



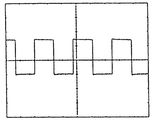
③ IC101 ㉗pin 20mVp-p 2ms/DIV



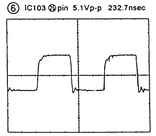
④ IC103 ③pin 2.4Vp-p 7.5μsec



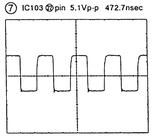
⑤ IC103 ㉚pin 5.1Vp-p 137μsec



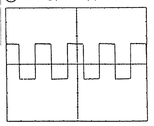
⑥ IC103 ㉙pin 5.1Vp-p 232.7nsec



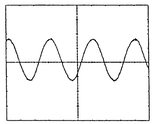
⑦ IC103 ㉘pin 5.1Vp-p 472.7nsec



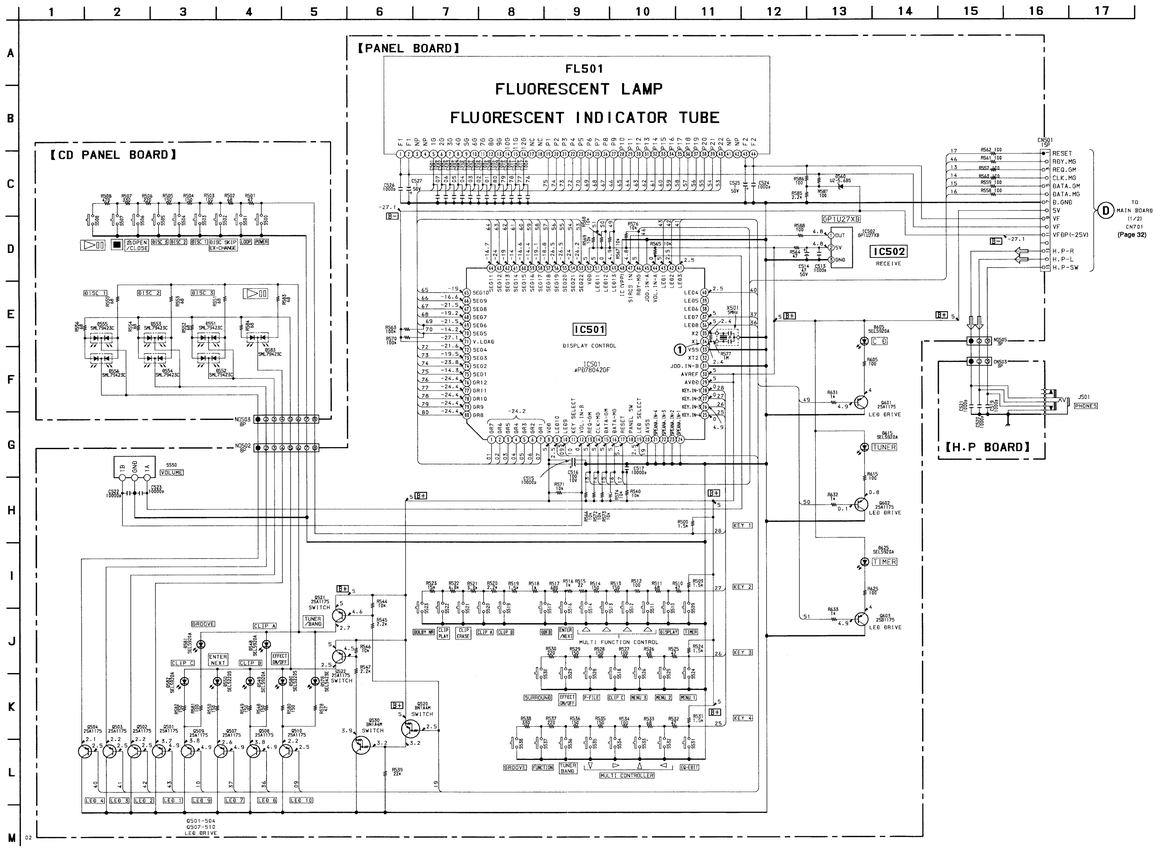
⑧ IC103 ㉗pin 5.1Vp-p 23μsec



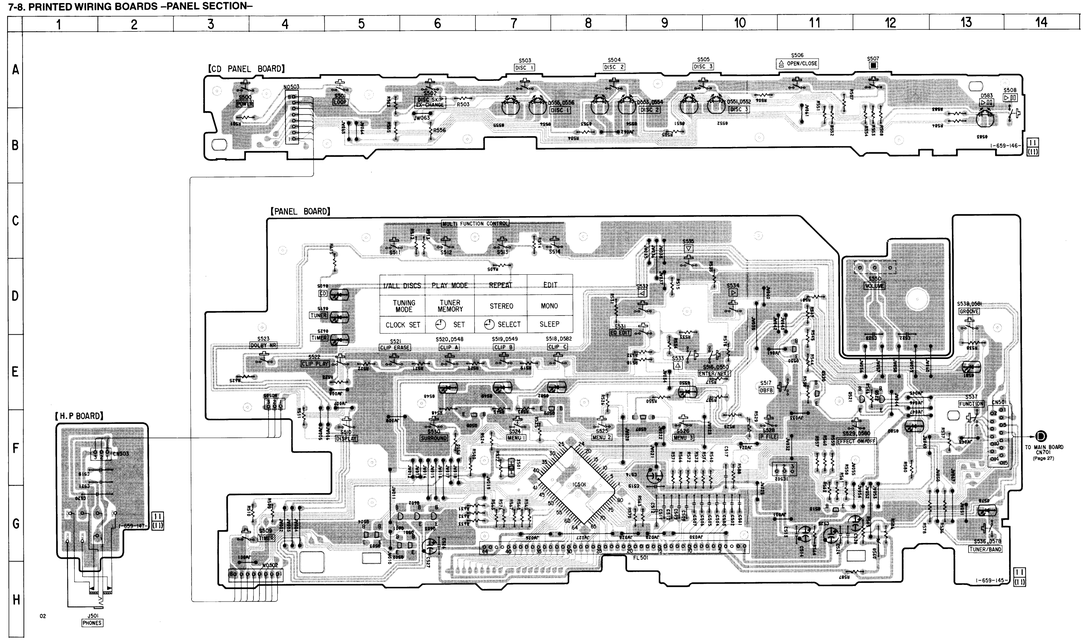
⑨ IC104 ⑥ pin 3Vp-p 16.9344MHz



7-7. SCHEMATIC DIAGRAM –PANEL SECTION–



7-8. PRINTED WIRING BOARDS –PANEL SECTION–



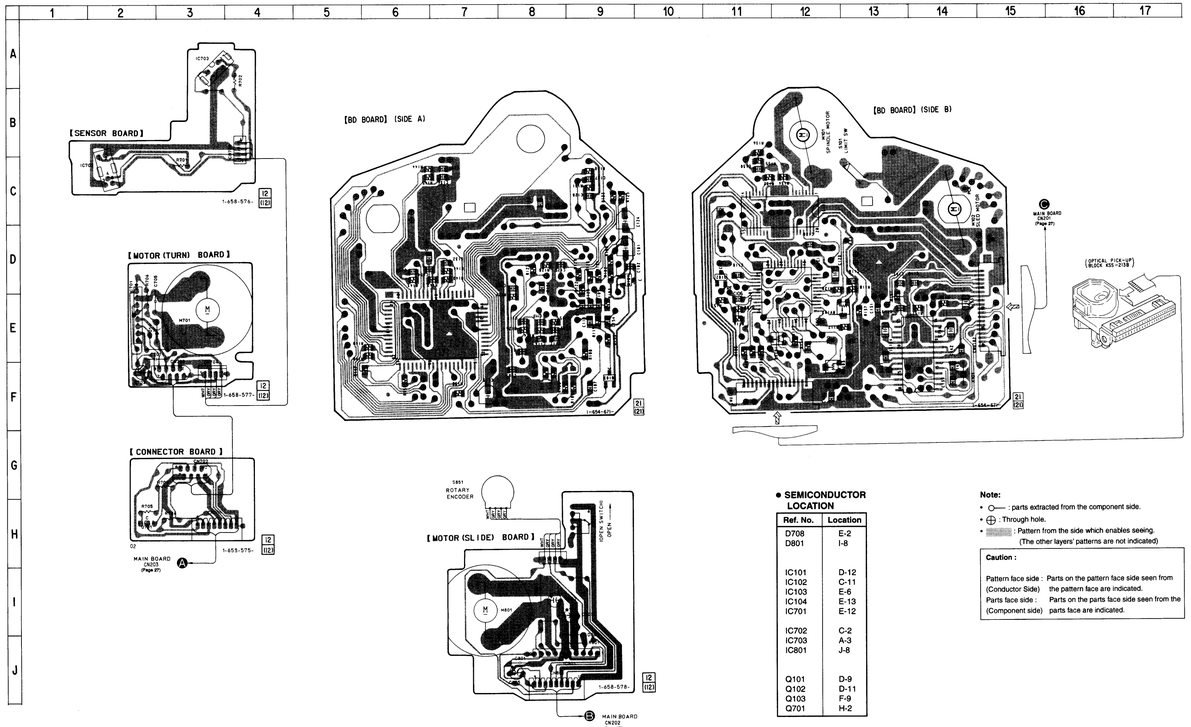
● SEMICONDUCTOR LOCATION

Ref. No.	Location
D548	E-6
D549	E-7
D550	E-9
D551	A-9
D552	A-10
D553	A-8
D554	A-8
D555	B-7
D556	B-7
D560	G-12
D578	G-13
D580	E-12
D581	E-13
D582	E-7
D583	B-13
D605	D-5
D615	D-5
D625	E-5
IC501	G-8
IC502	F-11
Q501	G-6
Q502	G-2
Q503	G-5
Q504	G-5
Q507	F-9
Q508	F-6
Q509	E-7
Q510	G-11
Q520	E-11
Q521	E-12
Q522	E-12
Q530	E-11
Q601	G-5
Q602	G-6
Q603	G-6

Note:

- ○— : parts extracted from the component side.
- : Pattern on the side which is seen.

7-9. PRINTED WIRING BOARDS –BD SECTION–



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● SEMICONDUCTOR LOCATION

Ref. No.	Location
D708	E-2
D801	I-8
IC101	D-12
IC102	C-11
IC103	E-6
IC104	E-13
IC701	E-12
IC702	C-2
IC703	A-3
IC801	J-8
Q101	D-9
Q102	D-11
Q103	F-9
Q701	H-2

Note:

- ○— : parts extracted from the component side.
- ⊕ : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

Caution :

Pattern face side : Parts on the pattern face side seen from (Conductor Side) the pattern face are indicated.
Parts face side : Parts on the parts face side seen from the (Component side) parts face are indicated.

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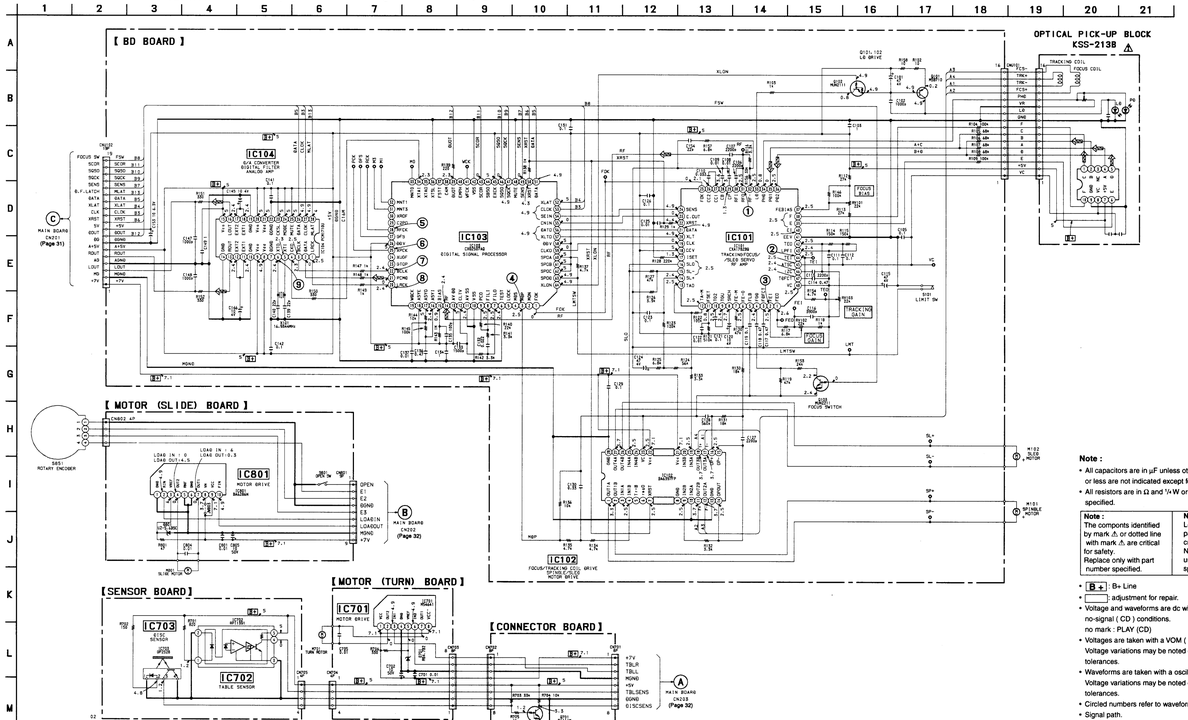
7-10. SCHEMATIC DIAGRAM –BD SECTION–

● Refer to page 46 for IC Block Diagrams. ● Refer to page 39 for Waveforms.



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Note :

- All capacitors are in µF unless otherwise noted. pF: µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼W or less unless otherwise specified.

Note :	Note :
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- B+ : B+ Line
- [ ] : adjustment for repair.
- Voltage and waveforms are dc with respect to ground under no-signal (CD) conditions.
  no mark : PLAY (CD)
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

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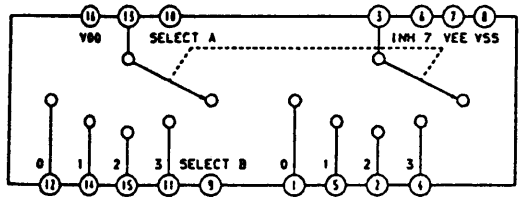
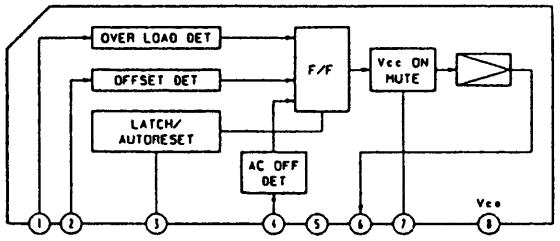
7-11. IC BLOCK DIAGRAMS

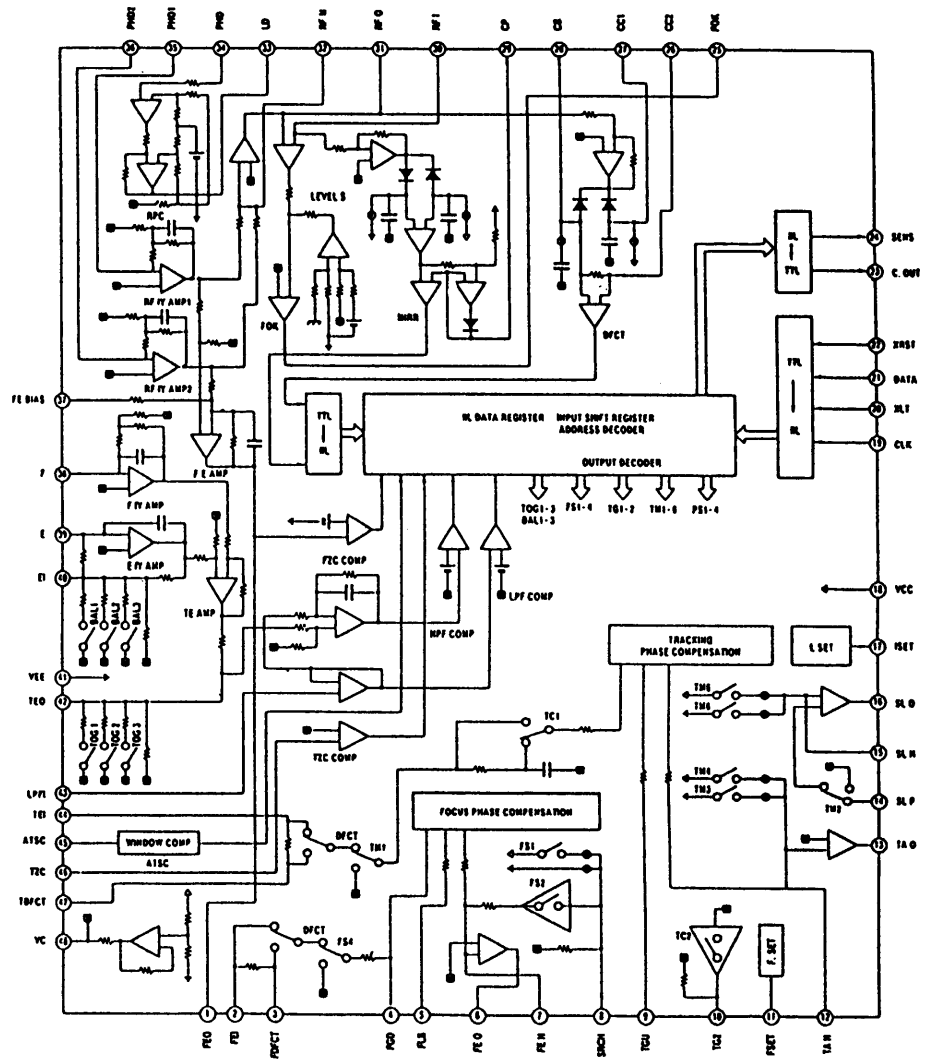
– MAIN SECTION –
IC802 MC14052BCP



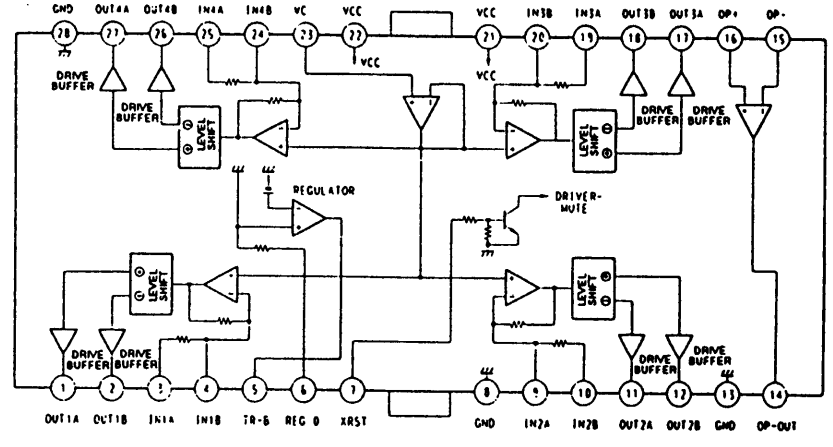
– POWER SECTION –
IC1202 μPC1237HA



– BD SECTION –
IC101 CXA1782BQ



IC102 BA6397FP



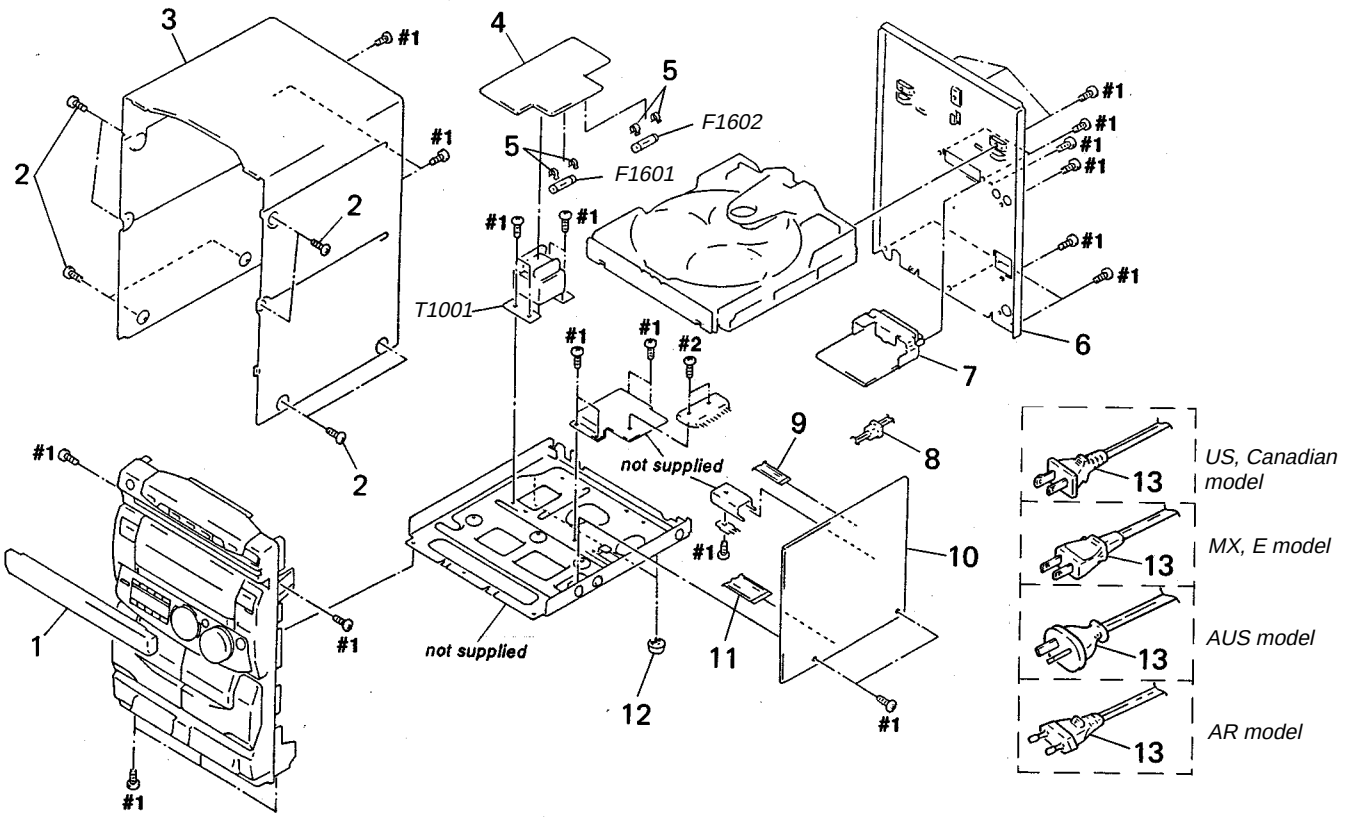
SECTION 8
EXPLODED VIEWS

NOTE :
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  AUS : Australian AR : Argentine
  MX : Mexican

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

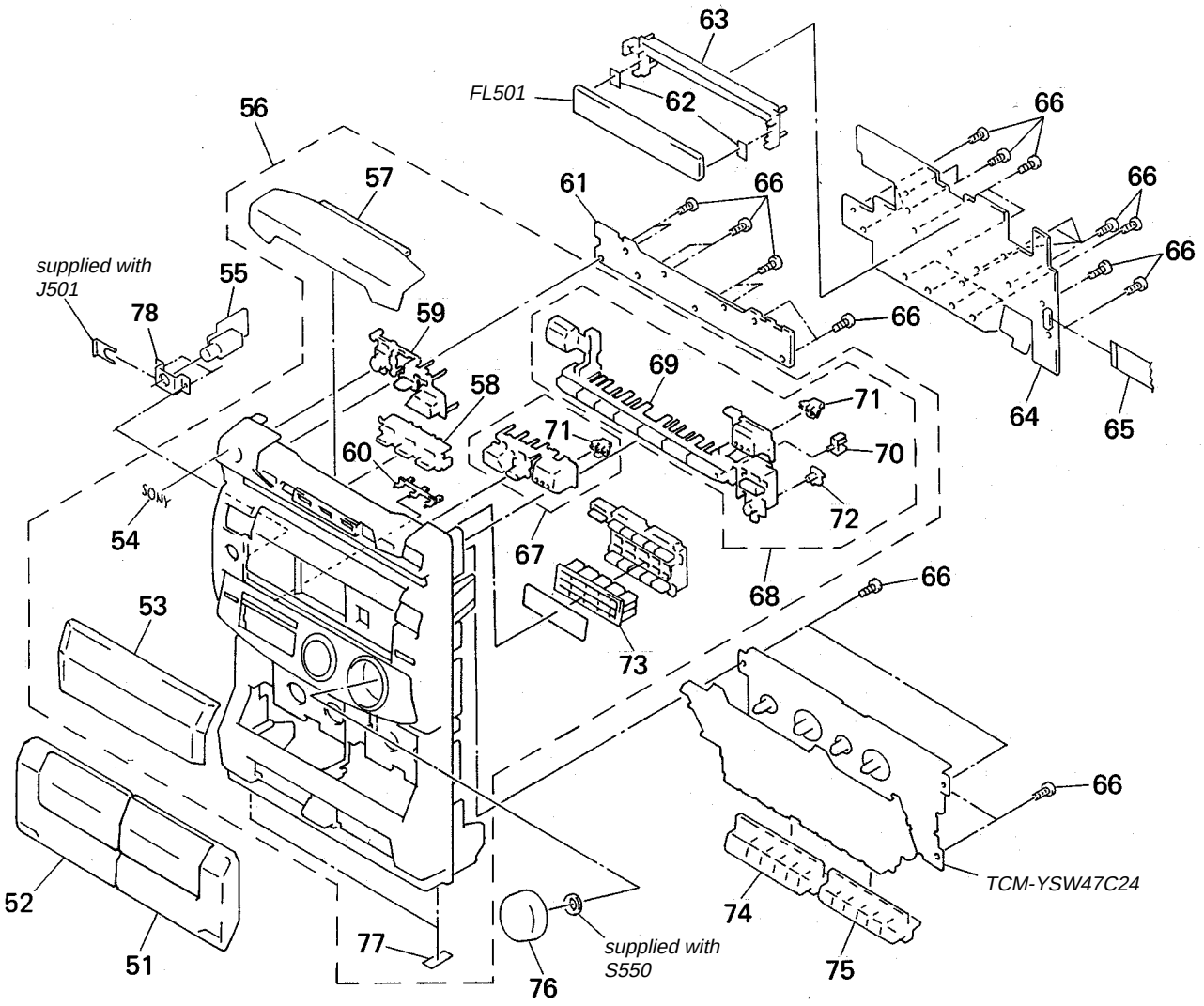
8-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	4-979-851-01	PANEL, LOADING (H331:US,Canadian)	
* 1	4-979-851-11	PANEL, LOADING (H331:E,AUS,MX,AR)	
* 1	4-979-851-21	PANEL, LOADING (H331D)	
2	3-363-099-01	SCREW (CASE 3 TP2)	
* 3	4-978-748-01	CASE	
* 4	1-659-148-11	TRANSFORMER BOARD	
5	1-533-217-31	HOLDER, FUSE	
* 6	4-979-270-01	PANEL, BACK (H331:US)	
* 6	4-979-270-11	PANEL, BACK (Canadian)	
* 6	4-979-270-21	PANEL, BACK (H331D)	
* 6	4-979-271-01	PANEL, BACK (E)	
* 6	4-979-271-11	PANEL, BACK (AUS)	
* 6	4-979-271-21	PANEL, BACK (MX)	
* 6	4-979-271-31	PANEL, BACK (AR)	
7	1-233-544-11	ENCAPSULATED COMPONENT (US,Canadian,MX)	
7	1-233-545-11	ENCAPSULATED COMPONENT (E,AUS,AR)	
* 8	3-703-244-00	BUSHING (2104), CORD (US,Canadian,AUS,AR)	

Ref. No.	Part No.	Description	Remark
8	3-703-571-11	BUSHING (S) (4516), CORD (US,Canadian,E,MX)	
9	1-769-977-11	WIRE (FLAT TYPE) (13 CORE)	
* 10	A-4389-126-A	MAIN BOARD, COMPLETE (H331:AR,AUS,E,MX)	
* 10	A-4389-127-A	MAIN BOARD, COMPLETE (H331:US,Canadian)	
* 10	A-4389-144-A	MAIN BOARD, COMPLETE (H331D)	
11	1-776-240-11	WIRE (FLAT TYPE) (19 CORE)	
12	4-965-822-01	FOOT	
⚠ 13	1-575-651-11	CORD, POWER (AR)	
⚠ 13	1-575-653-11	CORD, POWER (E,MX)	
⚠ 13	1-690-608-11	CORD, POWER (AUS)	
⚠ 13	1-690-609-21	CORD, POWER (US,Canadian)	
⚠ F1601	1-532-350-00	FUSE, TIME LAG (T4.0A/250V) (E,AUS,MX,AR)	
⚠ F1601	1-533-419-11	FUSE, GLASS CYLINDRICAL(DIA.5)(4.0A/125V) (US,Canadian)	
⚠ F1602	1-532-350-00	FUSE, TIME LAG (T4.0A/250V) (E,AUS,MX,AR)	
⚠ F1602	1-533-419-11	FUSE, GLASS CYLINDRICAL(DIA.5)(4.0A/125V) (US,Canadian)	
⚠ T1001	1-429-309-11	TRANSFORMER, POWER (US,Canadian)	
⚠ T1001	1-429-342-11	TRANSFORMER, POWER (E,AUS,MX,AR)	

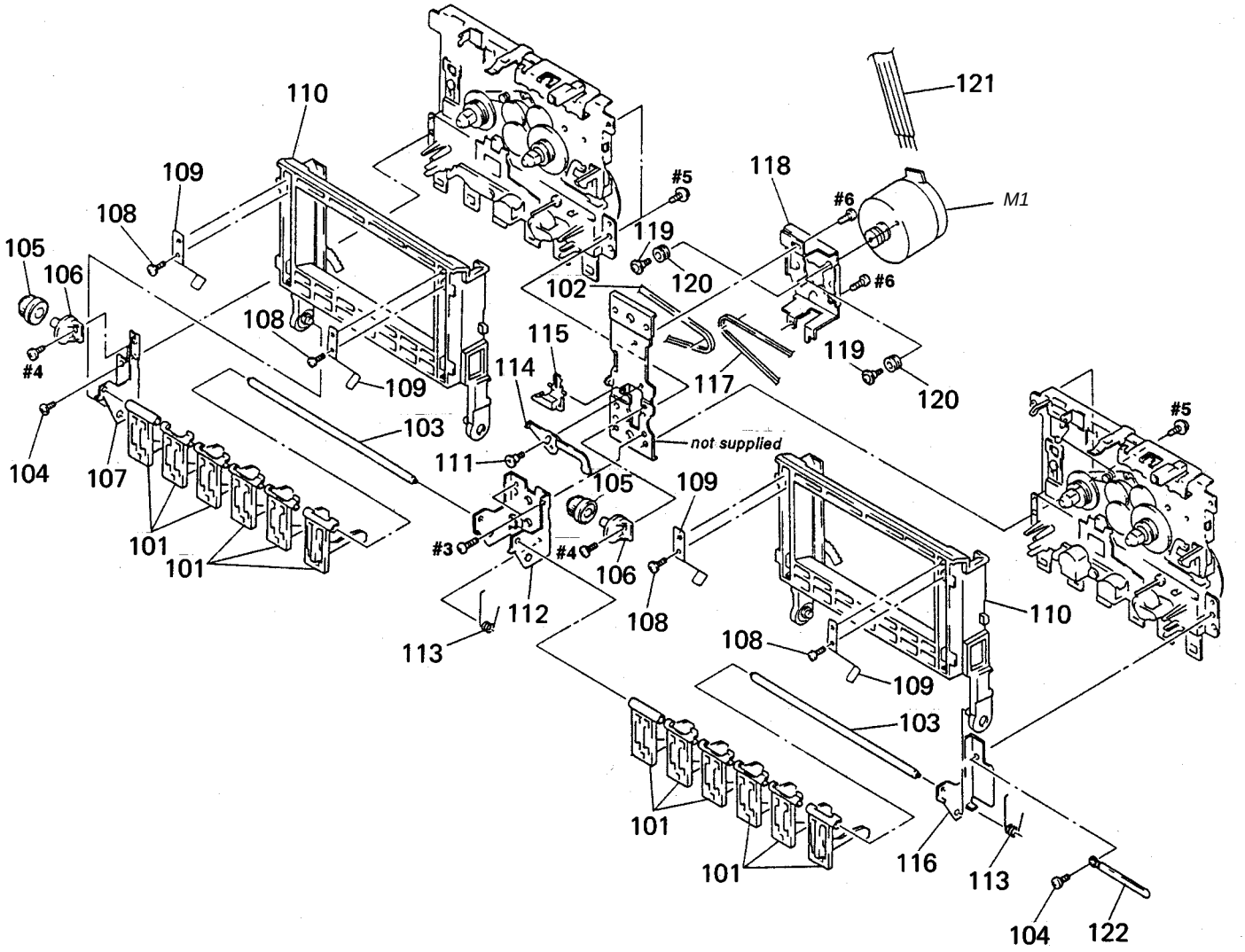
8-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	X-4946-731-1	LID (B) ASSY, CASSETTE	
52	X-4946-730-1	LID (A) ASSY, CASSETTE	
53	4-978-716-01	WINDOW, FL	
54	4-962-708-11	EMBLEM (4-A), SONY	
* 55	1-659-147-11	H.P BOARD	
56	X-4946-715-1	PANEL ASSY, FRONT	
57	4-978-715-01	WINDOW, 3-CD	
58	X-4946-703-1	BUTTON (3-CD) ASSY	
59	4-978-723-01	BUTTON, POWER	
60	4-978-739-01	INDICATOR, CLIP	
* 61	1-659-146-11	CD PANEL BOARD	
* 62	4-932-810-11	CUSHION (FL)	
* 63	4-978-168-01	HOLDER, FL TUBE	
* 64	A-4389-137-A	PANEL BOARD, COMPLETE	
65	1-773-020-11	WIRE (FLAT TYPE) (15 CORE)	

Ref. No.	Part No.	Description	Remark
66	4-951-620-41	SCREW (2.6), +BVTP	
67	X-4946-698-1	BUTTON (CD-PLAY) ASSY	
68	X-4946-706-1	BUTTON (T/B) ASSY	
69	4-978-726-21	BUTTON, TUNER/BAND	
70	4-978-737-01	INDICATOR, EFFECT	
71	4-978-734-01	INDICATOR, EFECT	
72	4-978-738-01	INDICATOR, WARP	
73	4-978-742-01	HOLDER, MULTI LED	
74	4-978-826-01	BUTTON, MD-A	
75	4-978-827-01	BUTTON, MD-B	
76	4-978-733-01	KNOB, VOL	
77	4-930-336-61	FOOT (FELT)	
* 78	4-978-830-01	BRACKET, HD	
FL501	1-517-489-11	INDICATOR TUBE, FLUORESCENT	

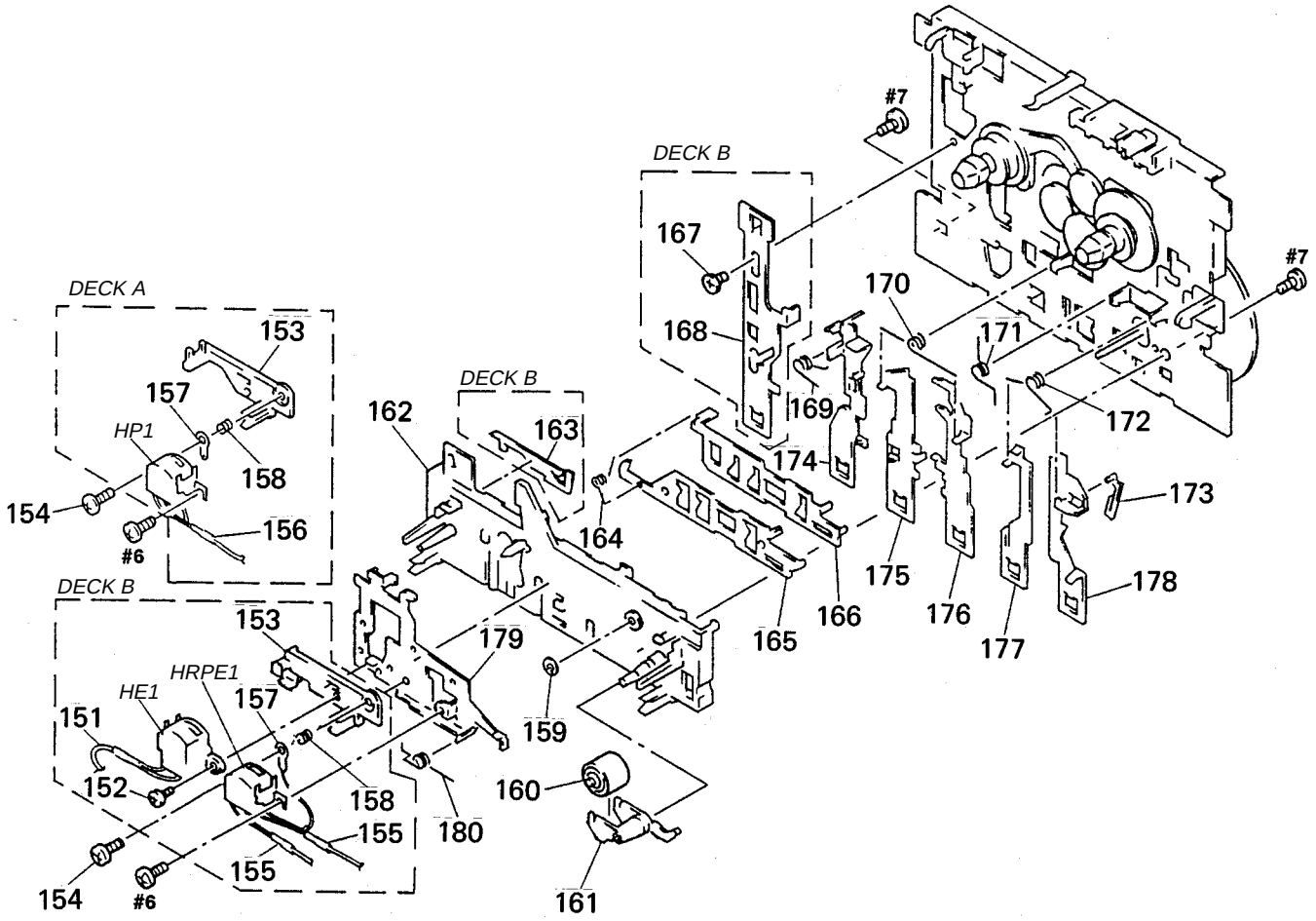
8-3. TC MECHANISM SECTION 1 (TCM-YSW47C24)



Ref. No.	Part No.	Description	Remark
101	3-931-802-01	BUTTON, LEVER	
102	3-918-734-01	BELT	
* 103	3-931-794-01	BUTTON, SHAFT	
104	3-918-741-01	SCREW	
105	3-931-807-01	DAMPER, GEAR	
106	3-931-806-01	GEAR, HOLDER	
* 107	3-931-793-01	BUTTON (L), HOLDER	
108	3-931-790-01	SCREW	
* 109	3-931-804-01	PLATE, KEEP	
110	3-931-803-01	CASE, CASSETTE	
111	3-931-791-01	SCREW	
112	3-931-809-01	BUTTON (S), HOLDER	

Ref. No.	Part No.	Description	Remark
113	3-931-805-01	SPRING	
* 114	3-369-927-01	ARM, CONNECT	
115	3-369-928-01	ARM, RELEASE	
* 116	3-931-792-01	BUTTON (R), HOLDER	
117	3-369-931-01	BELT	
* 118	3-918-742-01	HOLDER, MOTOR	
119	3-343-896-01	SCREW, MOTOR	
120	3-343-897-01	WASHER, RUBBER	
121	1-698-705-11	MOTOR, WIRE	
* 122	3-931-808-01	LUG, PLATE	
M1	X-3372-231-1	MOTOR ASSY (CAPSTAN/REEL)	

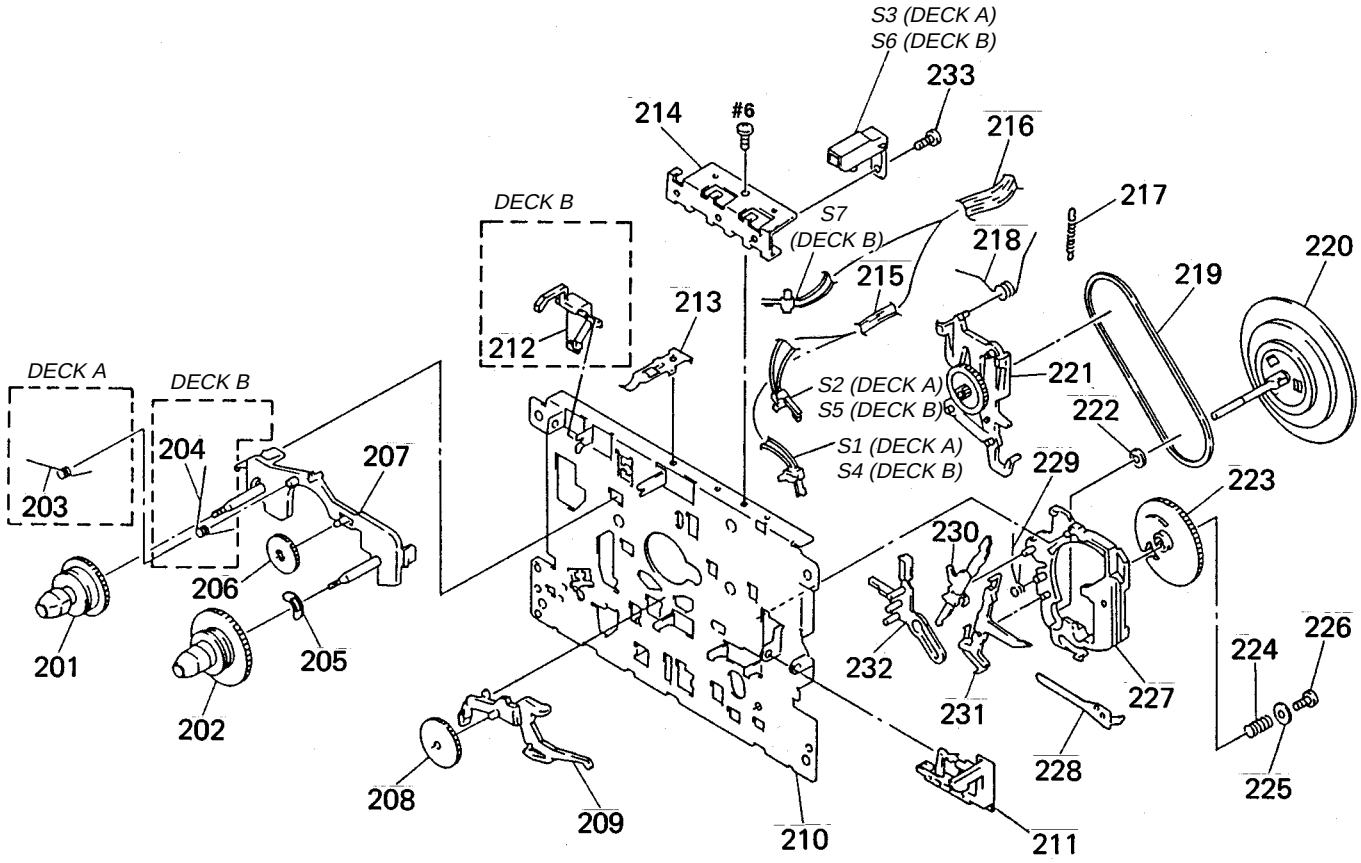
8-4. TC MECHANISM SECTION 2 (TCM-YSW47C24)



Ref. No.	Part No.	Description	Remark
151	1-500-322-11	HEAD, WIRE (E) (DECK B)	
152	3-931-789-01	SCREW (DECK B)	
153	1-500-319-11	HEAD, HOLDER (DECK B)	
153	3-362-986-01	HOLDER, HEAD (DECK A)	
154	3-363-229-01	SCREW	
155	1-500-320-11	HEAD, WIRE R/P (DECK B)	
156	1-500-321-11	HEAD, WIRE P.B (DECK A)	
157	3-390-817-01	LUG	
158	3-362-985-01	SPRING	
159	3-362-980-01	WASHER	
160	3-362-982-01	PINCH ROLLER	
161	3-362-981-01	PINCH ARM	
162	3-362-942-01	FRAME ASSY	
163	3-362-944-01	STOPPER, REC (DECK B)	
164	3-362-945-01	SPRING	
* 165	3-362-943-01	PLATE, FUNCTION	
* 166	3-362-946-01	LEVER, SW	

Ref. No.	Part No.	Description	Remark
167	3-362-958-01	SCREW (DECK B)	
* 168	3-362-947-01	LEVER, REC (DECK B)	
169	3-362-954-01	SPRING	
170	3-362-955-01	SPRING	
171	3-362-956-01	SPRING	
172	3-932-552-01	SPRING	
173	3-362-953-01	ARM, PAUSE	
* 174	3-362-948-01	LEVER, PLAY	
* 175	3-362-949-01	LEVER, REW	
* 176	3-362-950-01	LEVER, FF	
* 177	3-362-951-01	LEVER, SE	
* 178	3-362-952-01	LEVER, PAUSE	
* 179	3-362-984-01	HEAD (BASE)	
180	3-362-983-01	SPRING	
HE1	1-500-318-11	HEAD, E (ERASE)(DECK B)	
HP1	1-543-424-21	HEAD (PLAYBACK) (DECK A)	
HRPE1	1-543-424-21	HEAD (RECORD/PLAYBACK) (DECK B)	

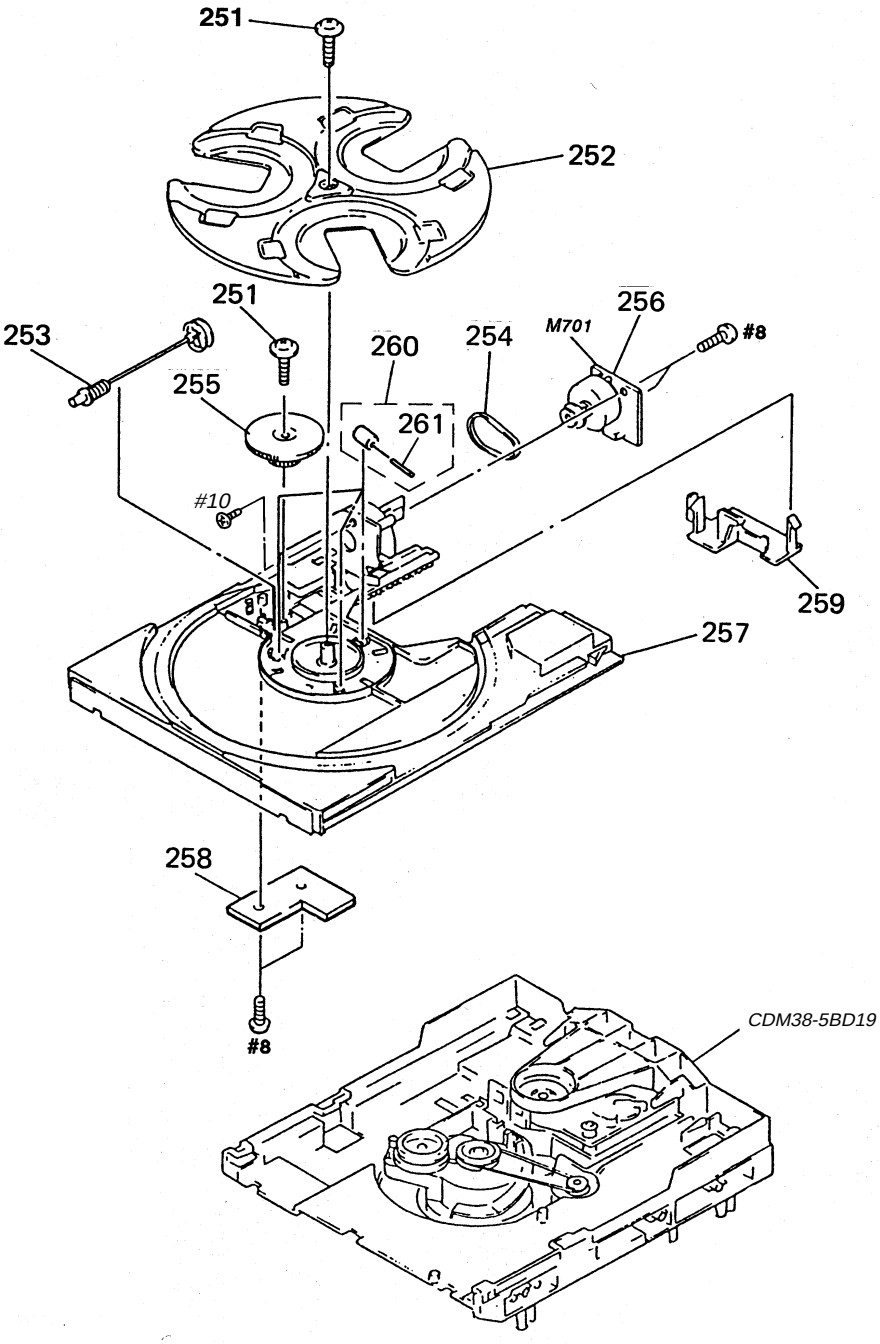
8-5. TC MECHANISM SECTION 3 (TCM-YSW47C24)



Ref. No.	Part No.	Description	Remark
201	X-3363-611-1	REEL, S	
202	3-362-962-01	REEL ASSY, T	
203	3-372-120-01	SPRING (DECK A)	
204	3-918-735-01	SPRING (DECK B)	
205	3-932-553-01	PLATE SPRING BT	
206	3-362-965-01	IDLER, FF	
207	3-362-961-01	SPINDLE (BASE)	
208	3-362-960-01	PULLEY, IDLER	
209	3-362-959-01	ARM, IDLER	
* 210	3-362-941-01	CHASSIS	
211	3-362-968-01	LEVER, EJECT	
212	3-362-966-01	INTER LOCK (DECK B)	
213	3-918-744-01	SPRING, CASSETTE	
214	1-762-610-11	SWITCH, PLATE	
215	1-762-613-11	SWITCH, WIRE LEAF (DECK A)	
216	1-762-612-11	SWITCH, WIRE LEAF (DECK B)	
217	3-362-971-01	SPRING	
218	3-362-970-01	SPRING	
219	3-918-734-01	BELT	
220	3-369-921-01	FW ASSY	

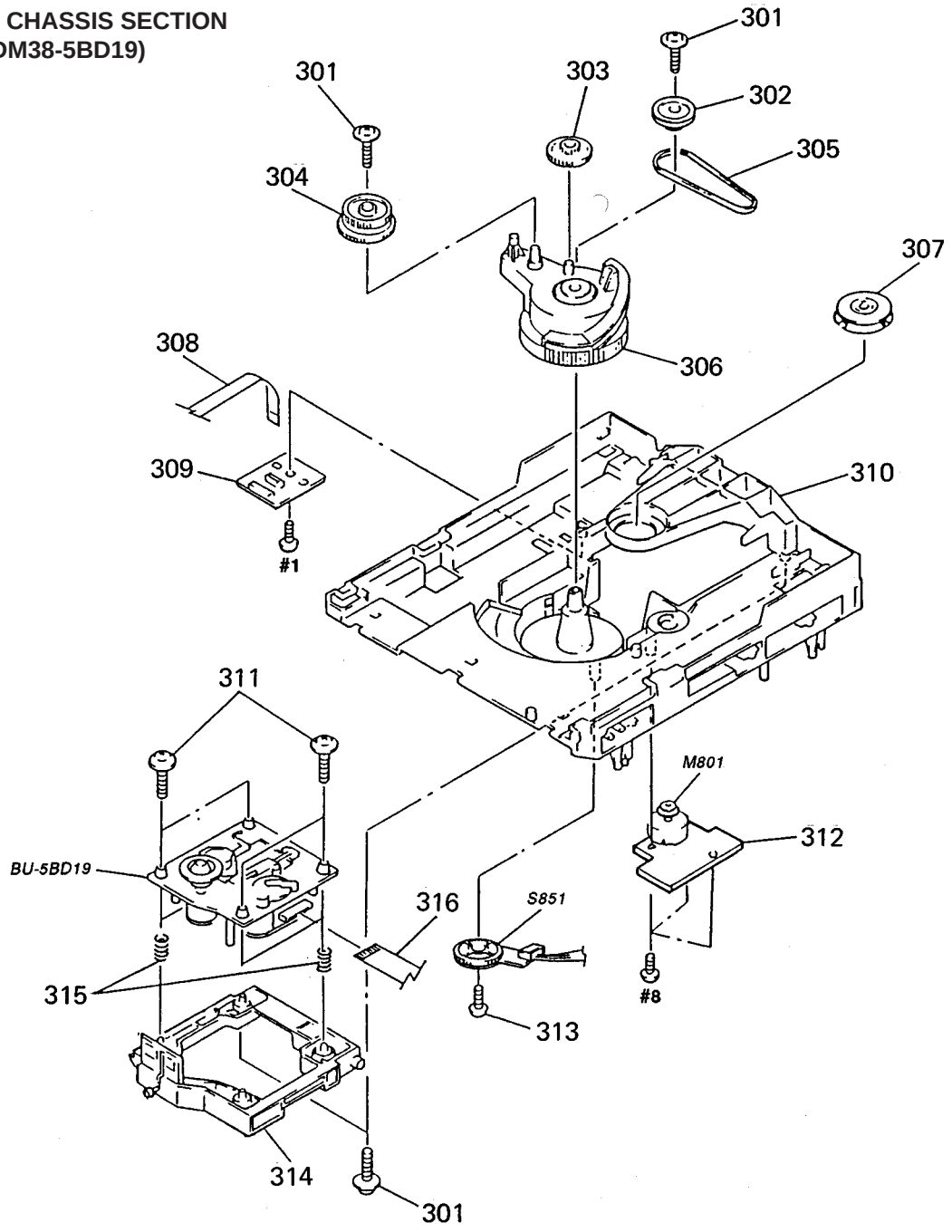
Ref. No.	Part No.	Description	Remark
221	3-362-969-01	IDLER ASSY, PF	
222	3-918-736-01	WASHER	
223	X-3363-315-1	GEAR, CAM	
224	3-369-962-01	SPRING, COMPRESSION	
225	3-369-961-01	WASHER	
226	3-366-352-01	SCREW	
227	3-362-973-01	AS (BASE)	
228	3-362-978-01	SPRING, PLATE	
229	3-362-977-01	SPRING	
230	3-362-976-01	LEVER, CONTROL	
231	3-362-975-01	LEVER, SENSOR	
232	3-387-697-01	SENSOR	
233	3-918-741-01	SCREW	
S1	1-571-556-11	SWITCH, LEAF (MOTOR) (DECK A)	
S2	1-571-745-11	SWITCH, LEAF (PLAY) (DECK A)	
S3	1-762-611-11	SWITCH, LEAF (TYPE 2) (DECK A)	
S4	1-571-556-11	SWITCH, LEAF (MOTOR) (DECK B)	
S5	1-571-745-11	SWITCH, LEAF (PLAY) (DECK B)	
S6	1-762-611-11	SWITCH, LEAF (TYPE 2) (DECK B)	
S7	1-571-556-11	SWITCH, LEAF (REC) (DECK B)	

8-6. DISC TABLE ASSY SECTION (CDM38-5BD19)



Ref. No.	Part No.	Description	Remark
251	4-917-583-21	BRACKET, YOKE	
252	4-977-945-01	TRAY (TURN)	
253	X-4946-665-2	SHAFT ASSY, WORM	
254	4-977-943-01	BELT (TURN) (1.2)	
255	4-977-956-01	WHEEL, WORM	
* 256	1-658-577-11	MOTOR (TURN) BOARD	
257	4-977-944-01	TRAY (SEIDE)	
* 258	1-658-576-11	SENSOR BOARD	
259	4-977-941-01	BEARING (WORM)	
260	X-4924-457-1	ROLLER ASSY	
261	4-934-376-01	SHAFT (ROLLER)	
M701	A-4660-586-A	MOTOR ASSY (TURN)	

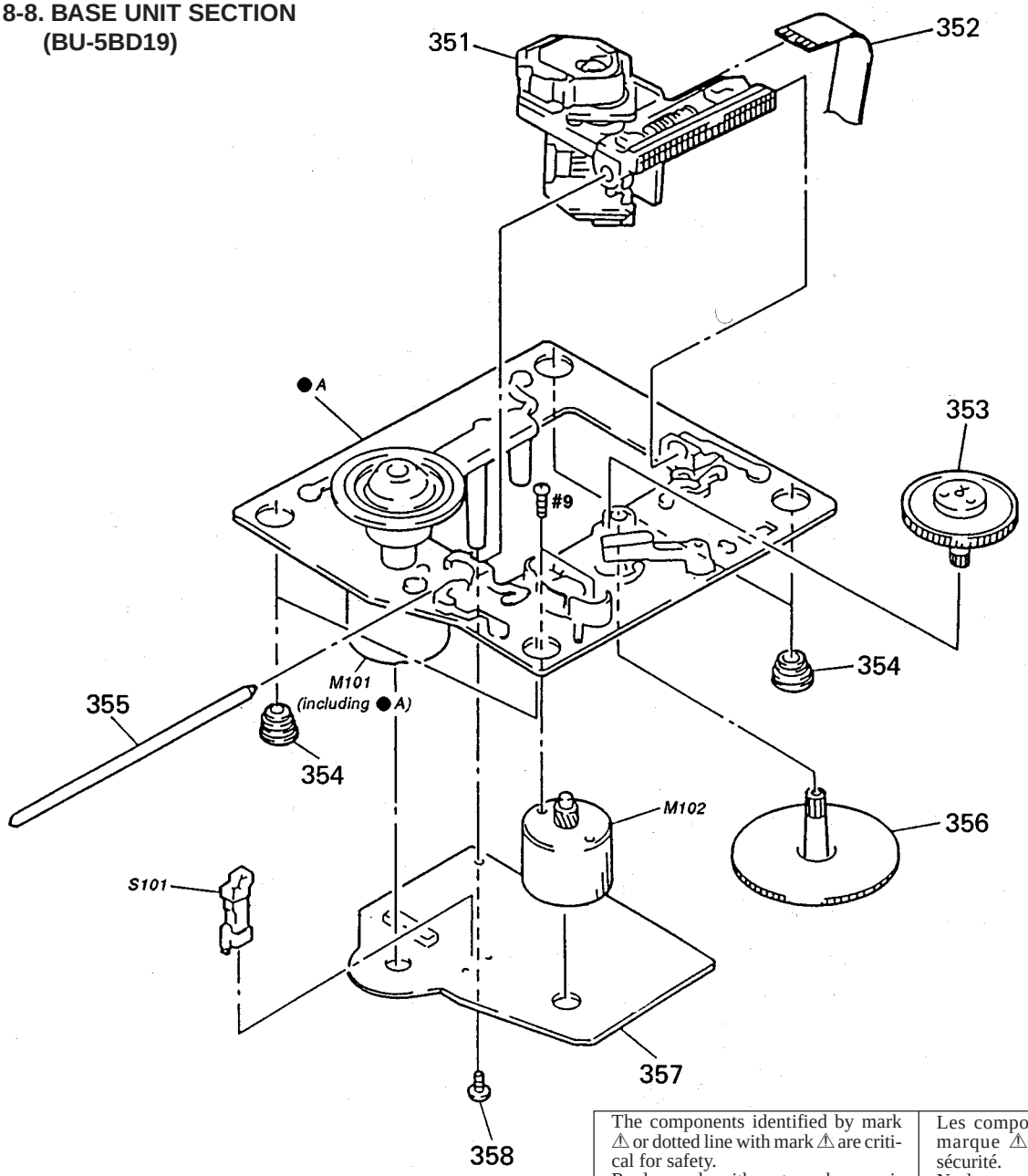
8-7. CDM CHASSIS SECTION (CDM38-5BD19)



Ref. No.	Part No.	Description	Remark
301	4-917-583-21	BRACKET, YOKE	
302	4-977-954-01	PULLEY (SL)	
303	4-977-953-01	GEAR (SL-A)	
304	4-977-955-01	GEAR (SL-B)	
305	4-977-942-01	BELT (SL) (1.4)	
306	X-4946-667-1	CAM ASSY, BU	
307	1-452-538-11	MAGNET	
308	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
* 309	1-658-575-11	CONNECTOR BOARD	

Ref. No.	Part No.	Description	Remark
* 310	X-4946-668-1	CHASSIS (CDM) ASSY	
311	4-933-134-01	SCREW (+PTPWH M2.6X6)	
* 312	1-658-578-11	MOTOR (SLIDE) BOARD	
313	4-951-620-41	SCREW (2.6), +BVTP	
* 314	X-4946-666-1	HOLDER (BU) ASSY	
315	4-982-447-01	SPRING (BU), COMPRESSION	
316	1-776-442-11	WIRE (FLAT TYPE) (19 CORRE)	
M801	A-4660-586-A	MOTOR ASSY (SLIDE)	
S851	1-473-335-11	ENCODER, ROTARY	

8-8. BASE UNIT SECTION (BU-5BD19)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
⚠ 351	8-848-367-11	OPTICAL PICK-UP KSS-213BA/F-NP	
352	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
353	4-917-567-01	GEAR (M)	
354	4-951-940-01	INSULATOR (BU)	
355	4-917-565-01	SHAFT, SLED	
356	4-917-564-01	GEAR (P), FLATNESS	

Ref. No.	Part No.	Description	Remark
* 357	A-4673-402-A	BD BOARD, COMPLETE	
358	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-523-4	BASE OUTSERT ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)	

BD

SECTION 9
ELECTRICAL PARTS LIST

NOTE :

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- SEMICONDUCTORS
  In each case, u : μ , for example :
  uA.... : μ A.... , uPA.... : μ PA....
  uPB.... : μ PB.... , uPC.... : μ PC....
  uPD.... : μ PD....
- CAPACITORS
  uF : μ F
- COILS
  uH : μ H
- Abbreviation
  AUS : Australian AR : Argentine
  MX : Mexican

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-4673-402-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-126-607-11	ELECT CHIP	47uF	20%	4V
C102	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C103	1-164-346-11	CERAMIC CHIP	1uF		16V
C105	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C106	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C107	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C108	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C109	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C110	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C111	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C113	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C114	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-163-016-00	CERAMIC CHIP	0.0039uF	10%	50V
C117	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C118	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C119	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C120	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C121	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C122	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C123	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C124	1-126-607-11	ELECT CHIP	47uF	20%	4V
C125	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C126	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C127	1-164-695-11	CERAMIC CHIP	0.0022uF	5%	50V
C128	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C129	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C130	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C131	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C132	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C133	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C134	1-164-346-11	CERAMIC CHIP	1uF		16V
C135	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C136	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C137	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C139	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C140	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C141	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C142	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C145	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C146	1-135-201-11	TANTALUM CHIP	10uF	20%	4V
C147	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C148	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C149	1-164-346-11	CERAMIC CHIP	1uF		16V
C153	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C154	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
		< CONNECTOR >			
CNU101	1-770-014-11	CONNECTOR, FFC/FPC 16P			
CNU102	1-770-013-11	CONNECTOR, FFC/FPC 19P			
		< IC >			
IC101	8-752-069-56	IC CXA1782BQ			
IC102	8-759-291-06	IC BA6397FP			
IC103	8-752-372-94	IC CXD2507AQ			
IC104	8-759-185-29	IC PCM1710U-B			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR	MSB710-R		
Q102	8-729-424-08	TRANSISTOR	UN2111		
Q103	8-729-421-22	TRANSISTOR	UN2211		
		< RESISTOR >			
R102	1-216-001-00	METAL CHIP	10	5%	1/10W
R103	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R104	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R105	1-216-093-00	METAL CHIP	68K	5%	1/10W
R106	1-216-093-00	METAL CHIP	68K	5%	1/10W
R107	1-216-093-00	METAL CHIP	68K	5%	1/10W
R108	1-216-093-00	METAL CHIP	68K	5%	1/10W
R109	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R112	1-216-083-00	METAL CHIP	27K	5%	1/10W
R113	1-216-083-00	METAL CHIP	27K	5%	1/10W
R114	1-216-101-00	METAL CHIP	150K	5%	1/10W
R115	1-216-101-00	METAL CHIP	150K	5%	1/10W

Ref. No.	Part No.	Description			Remark
R116	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R117	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R118	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R119	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R120	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R121	1-216-114-00	METAL GLAZE	510K	5%	1/10W
R122	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R123	1-216-099-00	METAL CHIP	120K	5%	1/10W
R124	1-216-091-00	METAL CHIP	56K	5%	1/10W
R125	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R126	1-216-063-91	METAL GLAZE	3.9K	5%	1/10W
R127	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R128	1-216-105-91	METAL GLAZE	220K	5%	1/10W
R129	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R130	1-216-079-00	METAL CHIP	18K	5%	1/10W
R131	1-216-079-00	METAL CHIP	18K	5%	1/10W
R132	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R133	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R134	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R135	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R136	1-216-073-00	METAL CHIP	10K	5%	1/10W
R137	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R138	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R139	1-216-033-00	METAL CHIP	220	5%	1/10W
R140	1-216-081-00	METAL CHIP	22K	5%	1/10W
R141	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R142	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R143	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R144	1-216-073-00	METAL CHIP	10K	5%	1/10W
R145	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R146	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R147	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R148	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R149	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R150	1-216-037-00	METAL CHIP	330	5%	1/10W
R151	1-216-037-00	METAL CHIP	330	5%	1/10W
R152	1-216-037-00	METAL CHIP	330	5%	1/10W
R153	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R154	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R156	1-216-085-00	METAL CHIP	33K	5%	1/10W
R157	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R158	1-216-001-00	METAL CHIP	10	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-241-396-11	RES, ADJ, METAL GLAZE 22K(FOCUS BIAS)			
RV102	1-241-396-11	RES, ADJ, METAL GLAZE 22K(FOCUS GAIN)			
RV103	1-241-396-11	RES, ADJ, METAL GLAZE 22K(TRACKING GAIN)			
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)			

Ref. No.	Part No.	Description			Remark
		< VIBRATOR >			
X101	1-579-280-11	VIBRATOR, CRYSTAL (16.9344MHz)			
**********					
*	1-659-146-11	CD PANEL BOARD			
		**********			
		< DIODE >			
D551	8-719-056-13	LED	SML79423C-TP15 (DISC 3)		
D552	8-719-056-13	LED	SML79423C-TP15 (DISC 3)		
D553	8-719-056-13	LED	SML79423C-TP15 (DISC 2)		
D554	8-719-056-13	LED	SML79423C-TP15 (DISC 2)		
D555	8-719-056-13	LED	SML79423C-TP15 (DISC 1)		
D556	8-719-056-13	LED	SML79423C-TP15 (DISC 1)		
D583	8-719-056-13	LED	SML79423C-TP15 (▷II)		
		< RESISTOR >			
R501	1-249-401-11	CARBON	47	5%	1/4W
R502	1-249-403-11	CARBON	68	5%	1/4W
R503	1-247-807-31	CARBON	100	5%	1/4W
R504	1-249-407-11	CARBON	150	5%	1/4W
R505	1-249-407-11	CARBON	150	5%	1/4W
R506	1-247-815-91	CARBON	220	5%	1/4W
R507	1-249-411-11	CARBON	330	5%	1/4W
R508	1-249-413-11	CARBON	470	5%	1/4W
R551	1-249-401-11	CARBON	68	5%	1/4W
R552	1-249-401-11	CARBON	68	5%	1/4W
R553	1-249-401-11	CARBON	68	5%	1/4W
R554	1-249-401-11	CARBON	68	5%	1/4W
R555	1-249-401-11	CARBON	68	5%	1/4W
R556	1-249-401-11	CARBON	68	5%	1/4W
R583	1-249-401-11	CARBON	68	5%	1/4W
R584	1-249-401-11	CARBON	68	5%	1/4W
		< SWITCH >			
S500	1-762-196-21	SWITCH, TACT (POWER)			
S501	1-762-196-21	SWITCH, TACT (LOOP)			
S502	1-762-196-21	SWITCH, TACT (DISC SKIP/EX CHANGE)			
S503	1-762-196-21	SWITCH, TACT (DISC 1)			
S504	1-762-196-21	SWITCH, TACT (DISC 2)			
S505	1-762-196-21	SWITCH, TACT (DISC 3)			
S506	1-762-196-21	SWITCH, TACT (⏏ OPEN/CLOSE)			
S507	1-762-196-21	SWITCH, TACT (■)			
S508	1-762-196-21	SWITCH, TACT (▷II)			
**********					
*	1-658-575-11	CONNECTOR BOARD			
		**********			
		< CONNECTOR >			
* CN701	1-568-946-11	PIN, CONNECTOR 8P			
CN702	1-750-413-11	CONNECTOR, FFC/FPC 8P			

CONNECTOR H.P MAIN

Ref. No.	Part No.	Description			Remark
		< TRANSISTOR >			
Q701	8-729-900-80	TRANSISTOR DTC114ES			
		< RESISTOR >			
R703	1-249-435-11	CARBON	33K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W
R705	1-249-417-11	CARBON	1K	5%	1/4W
**********					
*	1-659-147-11	H.P BOARD			
		**********			
		< CAPACITOR >			
C519	1-162-294-31	CERAMIC	0.001uF	10%	50V
C520	1-162-294-31	CERAMIC	0.001uF	10%	50V
C521	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
CN503	1-506-468-11	PIN, CONNECTOR 3P			
		< JACK >			
J501	1-770-226-11	JACK (LARGE TYPE) (PHONES)			
**********					
*	A-4389-126-A	MAIN BOARD, COMPLETE (H331:AR,AUS,E,MX)			
*	A-4389-127-A	MAIN BOARD, COMPLETE (H331:US,Canadian)			
*	A-4389-144-A	MAIN BOARD, COMPLETE (H331D)			
		**********			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S			
		< CAPACITOR >			
C201	1-124-925-11	ELECT	2.2uF	20%	100V
C202	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C203	1-126-925-11	ELECT	470uF	20%	10V
C204	1-162-282-31	CERAMIC	100PF	10%	50V
C205	1-162-282-31	CERAMIC	100PF	10%	50V
C251	1-124-925-11	ELECT	2.2uF	20%	100V
C252	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C300	1-162-282-31	CERAMIC	100PF	10%	50V
C301	1-162-290-31	CERAMIC	470PF	10%	50V
C302	1-136-157-00	FILM	0.022uF	5%	50V
C303	1-126-964-11	ELECT	10uF	20%	50V
C304	1-162-292-31	CERAMIC	680PF	10%	50V
C310	1-162-282-31	CERAMIC	100PF	10%	50V
C311	1-162-289-31	CERAMIC	390PF	10%	50V
C312	1-136-157-00	FILM	0.022uF	5%	50V
C313	1-126-964-11	ELECT	10uF	20%	50V
C315	1-126-934-11	ELECT	220uF	20%	16V
C321	1-130-479-00	MYLAR	0.0047uF	5%	50V
C322	1-124-903-11	ELECT	1uF	20%	50V
C323	1-126-963-11	ELECT	4.7uF	20%	50V

Ref. No.	Part No.	Description			Remark
C324	1-136-165-00	FILM	0.1uF	5%	50V
C326	1-124-903-11	ELECT	1uF	20%	50V
C327	1-124-902-00	ELECT	0.47uF	20%	50V
C328	1-126-963-11	ELECT	4.7uF	20%	50V
C329	1-162-291-31	CERAMIC	560PF	10%	50V
C330	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C331	1-107-599-11	CERAMIC	27PF	5%	500V
C332	1-101-890-00	CERAMIC	75PF	5%	50V
C333	1-162-288-31	CERAMIC	330PF	10%	50V
C334	1-102-973-00	CERAMIC	100PF	5%	50V
C335	1-162-286-21	CERAMIC	220PF	10%	50V
C336	1-162-286-21	CERAMIC	220PF	10%	50V
C340	1-124-925-11	ELECT	2.2uF	20%	100V
C351	1-130-478-00	MYLAR	0.0039uF	5%	50V
C352	1-130-478-00	MYLAR	0.0039uF	5%	50V
C353	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C354	1-130-482-00	MYLAR	0.0082uF	5%	50V
C355	1-124-925-11	ELECT	2.2uF	20%	100V
C356	1-130-487-00	MYLAR	0.022uF	5%	50V
C357	1-126-934-11	ELECT	220uF	20%	16V
C360	1-130-848-00	FILM	0.0082uF	5%	100V
C381	1-126-933-11	ELECT	100uF	20%	16V
C382	1-126-933-11	ELECT	100uF	20%	16V
C383	1-126-933-11	ELECT	100uF	20%	16V
C384	1-126-933-11	ELECT	100uF	20%	16V
C385	1-126-964-11	ELECT	10uF	20%	50V
C386	1-126-964-11	ELECT	10uF	20%	50V
C388	1-126-934-11	ELECT	220uF	20%	16V
C389	1-162-306-11	CERAMIC	0.01uF	30%	16V
C390	1-162-282-31	CERAMIC	100PF	10%	50V
C391	1-126-934-11	ELECT	220uF	20%	16V
C392	1-126-934-11	ELECT	220uF	20%	16V
C400	1-162-282-31	CERAMIC	100PF	10%	50V
C401	1-162-290-31	CERAMIC	470PF	10%	50V
C402	1-136-157-00	FILM	0.022uF	5%	50V
C403	1-126-964-11	ELECT	10uF	20%	50V
C404	1-162-292-31	CERAMIC	680PF	10%	50V
C410	1-162-282-31	CERAMIC	100PF	10%	50V
C411	1-162-289-31	CERAMIC	390PF	10%	50V
C412	1-136-157-00	FILM	0.022uF	5%	50V
C413	1-126-964-11	ELECT	10uF	20%	50V
C415	1-126-934-11	ELECT	220uF	20%	16V
C421	1-130-479-00	MYLAR	0.0047uF	5%	50V
C422	1-124-903-11	ELECT	1uF	20%	50V
C423	1-126-963-11	ELECT	4.7uF	20%	50V
C424	1-136-165-00	FILM	0.1uF	5%	50V
C426	1-124-903-11	ELECT	1uF	20%	50V
C427	1-124-902-00	ELECT	0.47uF	20%	50V
C428	1-126-963-11	ELECT	4.7uF	20%	50V
C429	1-162-291-31	CERAMIC	560PF	10%	50V
C430	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C431	1-107-599-11	CERAMIC	27PF	5%	500V

Ref. No.	Part No.	Description			Remark
C432	1-101-890-00	CERAMIC	75PF	5%	50V
C433	1-162-288-31	CERAMIC	330PF	10%	50V
C434	1-102-973-00	CERAMIC	100PF	5%	50V
C435	1-162-286-21	CERAMIC	220PF	10%	50V
C452	1-164-159-21	CERAMIC	0.1uF		50V
C453	1-124-903-11	ELECT	1uF	20%	50V
C701	1-162-306-11	CERAMIC	0.01uF	30%	16V (H331)
C702	1-126-926-11	ELECT	1000uF	20%	10V
C703	1-126-964-11	ELECT	10uF	20%	50V
C704	1-136-165-00	FILM	0.1uF	5%	50V
C705	1-136-165-00	FILM	0.1uF	5%	50V
C706	1-126-965-11	ELECT	22uF	20%	50V
C707	1-162-205-31	CERAMIC	18PF	5%	50V
C708	1-162-205-31	CERAMIC	18PF	5%	50V
C710	1-162-306-11	CERAMIC	0.01uF	30%	16V
C713	1-162-306-11	CERAMIC	0.01uF	30%	16V
C730	1-126-964-11	ELECT	10uF	20%	50V
C810	1-162-306-11	CERAMIC	0.01uF	30%	16V
C811	1-162-306-11	CERAMIC	0.01uF	30%	16V
C901	1-136-169-00	FILM	0.22uF	5%	50V
C902	1-136-169-00	FILM	0.22uF	5%	50V
C903	1-136-495-11	FILM	0.068uF	5%	50V
C904	1-136-495-11	FILM	0.068uF	5%	50V
C905	1-136-156-00	FILM	0.018uF	5%	50V
C906	1-136-156-00	FILM	0.018uF	5%	50V
C907	1-130-480-00	MYLAR	0.0056uF	5%	50V
C908	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C909	1-130-474-00	MYLAR	0.0018uF	5%	50V
C910	1-126-964-11	ELECT	10uF	20%	50V
C911	1-126-964-11	ELECT	10uF	20%	50V
C912	1-136-165-00	FILM	0.1uF	5%	50V
C913	1-136-165-00	FILM	0.1uF	5%	50V
C914	1-126-964-11	ELECT	10uF	20%	50V
C915	1-130-479-00	MYLAR	0.0047uF	5%	50V
C932	1-124-925-11	ELECT	2.2uF	20%	100V
C933	1-124-902-00	ELECT	0.47uF	20%	50V
C935	1-124-925-11	ELECT	2.2uF	20%	100V
C936	1-126-964-11	ELECT	10uF	20%	50V
C938	1-162-290-31	CERAMIC	470PF	10%	50V
C939	1-126-967-11	ELECT	47uF	20%	10V
C940	1-126-967-11	ELECT	47uF	20%	10V
C951	1-136-169-00	FILM	0.22uF	5%	50V
C952	1-136-169-00	FILM	0.22uF	5%	50V
C953	1-136-495-11	FILM	0.068uF	5%	50V
C954	1-136-495-11	FILM	0.068uF	5%	50V
C955	1-136-156-00	FILM	0.018uF	5%	50V
C956	1-136-156-00	FILM	0.018uF	5%	50V
C957	1-130-480-00	MYLAR	0.0056uF	5%	50V
C958	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C959	1-130-474-00	MYLAR	0.0018uF	5%	50V
C960	1-126-964-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description			Remark
C961	1-126-964-11	ELECT	10uF	20%	50V
C962	1-136-165-00	FILM	0.1uF	5%	50V
C963	1-136-165-00	FILM	0.1uF	5%	50V
C964	1-126-964-11	ELECT	10uF	20%	50V
C965	1-130-479-00	MYLAR	0.0047uF	5%	50V
C1001	1-126-955-11	ELECT	4700uF	20%	35V
C1002	1-126-953-11	ELECT	2200uF	20%	35V
C1004	1-126-935-11	ELECT	470uF	20%	6.3V
C1005	1-126-964-11	ELECT	10uF	20%	50V
C1006	1-126-933-11	ELECT	100uF	20%	10V
C1007	1-126-934-11	ELECT	220uF	20%	16V
C1008	1-126-933-11	ELECT	100uF	20%	16V
C1009	1-126-953-11	ELECT	2200uF	20%	35V
C1010	1-164-159-21	CERAMIC	0.1uF		50V
C1011	1-164-159-21	CERAMIC	0.1uF		50V
C1012	1-126-964-11	ELECT	10uF	20%	50V
C1013	1-126-916-11	ELECT	1000uF	20%	6.3V
C1014	1-126-964-11	ELECT	10uF	20%	50V
C1015	1-126-964-11	ELECT	10uF	20%	50V
C1016	1-126-925-11	ELECT	470uF	20%	10V
C1017	1-126-925-11	ELECT	470uF	20%	10V
C1020	1-126-964-11	ELECT	10uF	20%	50V
C1021	1-126-964-11	ELECT	10uF	20%	50V
C1022	1-126-968-11	ELECT	100uF	20%	50V
C1023	1-126-968-11	ELECT	100uF	20%	50V
C1201	1-126-963-11	ELECT	4.7uF	20%	50V
C1202	1-162-288-31	CERAMIC	330PF	10%	50V
C1203	1-162-286-21	CERAMIC	220PF	10%	50V
C1204	1-126-967-11	ELECT	47uF	20%	10V
C1205	1-126-967-11	ELECT	47uF	20%	50V
C1207	1-136-165-00	FILM	0.1uF	5%	50V
C1208	1-126-965-11	ELECT	22uF	20%	50V
C1210	1-136-495-11	FILM	0.068uF	5%	50V
C1211	1-136-495-11	FILM	0.068uF	5%	50V
C1220	1-126-933-11	ELECT	100uF	20%	10V
C1221	1-126-933-11	ELECT	100uF	20%	10V
C1222	1-126-923-11	ELECT	220uF	20%	10V
C1223	1-126-923-11	ELECT	220uF	20%	10V
C1224	1-124-925-11	ELECT	2.2uF	20%	100V
C1251	1-126-963-11	ELECT	4.7uF	20%	50V
C1252	1-162-288-31	CERAMIC	330PF	10%	50V
C1253	1-162-286-21	CERAMIC	220PF	10%	50V
C1254	1-126-967-11	ELECT	47uF	20%	10V
C1255	1-126-967-11	ELECT	47uF	20%	50V
C1257	1-136-165-00	FILM	0.1uF	5%	50V
C1260	1-136-495-11	FILM	0.068uF	5%	50V
C1261	1-136-495-11	FILM	0.068uF	5%	50V
		< CONNECTOR >			
	CN201	1-770-067-11	CONNECTOR, FFC/FPC 19P		
*	CN202	1-568-936-11	PIN, CONNECTOR 9P		
*	CN203	1-568-935-11	PIN, CONNECTOR 8P		

MAIN

Ref. No.	Part No.	Description	Remark
* CN250	1-568-832-11	SOCKET, CONNECTOR 13P	
CN301	1-564-506-11	PLUG, CONNECTOR 3P	
* CN302	1-564-509-11	PLUG, CONNECTOR 6P	
CN303	1-564-505-11	PLUG, CONNECTOR 2P	
* CN304	1-564-706-11	PIN, CONNECTOR (SMALL TYPE) 4P	
* CN305	1-564-708-11	PIN, CONNECTOR (SMALL TYPE) 6P	
* CN306	1-564-710-11	PIN, CONNECTOR (SMALL TYPE) 8P	
* CN307	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	
* CN308	1-568-449-11	HOUSING, CONNECTOR(PC BOARD)3P	
* CN701	1-568-834-11	SOCKET, CONNECTOR 15P	
		< DIODE >	
D201	8-719-987-63	DIODE 1N4148M	
D202	8-719-987-63	DIODE 1N4148M	
D381	8-719-200-82	DIODE 11ES2	
D382	8-719-200-82	DIODE 11ES2	
D383	8-719-200-82	DIODE 11ES2	
D384	8-719-987-63	DIODE 1N4148M	
D385	8-719-987-63	DIODE 1N4148M	
D386	8-719-200-82	DIODE 11ES2	
D387	8-719-200-82	DIODE 11ES2	
D450	8-719-987-63	DIODE 1N4148M	
D451	8-719-987-63	DIODE 1N4148M	
D452	8-719-987-63	DIODE 1N4148M	
D453	8-719-987-63	DIODE 1N4148M	
D701	8-719-987-63	DIODE 1N4148M	
D702	8-719-987-63	DIODE 1N4148M	
D703	8-719-987-63	DIODE 1N4148M	
D704	8-719-987-63	DIODE 1N4148M	
D705	8-719-987-63	DIODE 1N4148M	
D706	8-719-200-82	DIODE 11ES2	
D707	8-719-987-63	DIODE 1N4148M	
D708	8-719-987-63	DIODE 1N4148M	
D901	8-719-987-63	DIODE 1N4148M	
D939	8-719-987-63	DIODE 1N4148M	
D940	8-719-987-63	DIODE 1N4148M	
D1001	8-719-200-82	DIODE 11ES2	
D1003	8-719-028-23	DIODE D3SBA20-4101	
D1007	8-719-987-63	DIODE 1N4148M	
D1008	8-719-001-43	DIODE UZL-11M1-TA	
D1009	8-719-987-63	DIODE 1N4148M	
D1010	8-719-987-63	DIODE 1N4148M	
D1013	8-719-200-82	DIODE 11ES2	
D1014	8-719-200-82	DIODE 11ES2	
D1017	8-719-200-82	DIODE 11ES2	
D1023	8-719-934-18	DIODE HZS27-2L	
D1031	8-719-200-82	DIODE 11ES2	
D1032	8-719-200-82	DIODE 11ES2	
D1033	8-719-200-82	DIODE 11ES2	
D1034	8-719-200-82	DIODE 11ES2	
D1035	8-719-200-82	DIODE 11ES2	
D1036	8-719-200-82	DIODE 11ES2	
D1037	8-719-200-82	DIODE 11ES2	
D1038	8-719-200-82	DIODE 11ES2	
D1039	8-719-200-82	DIODE 11ES2	
D1040	8-719-200-82	DIODE 11ES2	
D1041	8-719-200-82	DIODE 11ES2	
D1042	8-719-200-82	DIODE 11ES2	
D1043	8-719-200-82	DIODE 11ES2	
D1044	8-719-200-82	DIODE 11ES2	
D1045	8-719-200-82	DIODE 11ES2	
D1046	8-719-200-82	DIODE 11ES2	
D1047	8-719-200-82	DIODE 11ES2	
D1048	8-719-200-82	DIODE 11ES2	
D1049	8-719-200-82	DIODE 11ES2	
D1050	8-719-200-82	DIODE 11ES2	
D1051	8-719-024-99	DIODE 11ES2-NTA2B	
D1052	8-719-024-99	DIODE 11ES2-NTA2B	
D1053	8-719-024-99	DIODE 11ES2-NTA2B	
D1054	8-719-024-99	DIODE 11ES2-NTA2B	
D1055	8-719-024-99	DIODE 11ES2-NTA2B	
D1056	8-719-024-99	DIODE 11ES2-NTA2B	
D1057	8-719-024-99	DIODE 11ES2-NTA2B	
D1058	8-719-200-82	DIODE 11ES2	
D1059	8-719-987-63	DIODE 1N4148M	
D1060	8-719-024-99	DIODE 11ES2-NTA2B	
D1061	8-719-024-99	DIODE 11ES2-NTA2B	
D1062	8-719-200-82	DIODE 11ES2	
D1063	8-719-024-99	DIODE 11ES2-NTA2B	
D1069	8-719-987-63	DIODE 1N4148M	
D1201	8-719-987-63	DIODE 1N4148M	
D1202	8-719-987-63	DIODE 1N4148M	
D1204	8-719-987-63	DIODE 1N4148M	
D1205	8-719-987-63	DIODE 1N4148M	
D1251	8-719-987-63	DIODE 1N4148M	
D1309	8-719-987-63	DIODE 1N4148M	
D1310	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC301	8-759-710-59	IC NJM4580D-D	
IC302	8-759-710-59	IC NJM4580D-D	
IC303	8-759-289-38	IC HA12195NT	
IC304	8-759-143-54	IC UPC1330HA	
IC701	8-759-392-42	IC TMP87CS64YF-6397 (FORMER TYPE)	
IC701	8-759-398-86	IC TMP87CS64YF-6417 (NEW TYPE)	
IC702	8-759-165-80	IC PST600C-T	
IC802	8-759-000-48	IC MC14052BCP	
IC901	8-759-331-39	IC M62427FP	
IC1001	8-759-231-53	IC TA7805S	
IC1002	8-759-604-86	IC M5F7807L	
IC1003	8-759-604-86	IC M5F7807L	
IC1004	8-759-604-90	IC M5F7907L	
IC1201	8-749-920-13	IC STK-4132MK2 (E,AUS,MX,AR)	
IC1201	8-749-920-19	IC STK-4122-2-K (US,Canadian)	

Ref. No.	Part No.	Description			Remark
IC1202	8-759-111-68	IC UPC1237HA			
		< JACK >			
J801	1-774-725-11	JACK, PIN 2P (VIDEO)			
J802	1-774-785-11	JACK, PIN 1P (SUPER WOOFER) (H331)			
		< COIL >			
L301	1-410-780-11	INDUCTOR	27mH		
L351	1-414-223-11	INDUCTOR	470uH		
L401	1-410-780-11	INDUCTOR	27mH		
		< TRANSISTOR >			
Q301	8-729-119-79	TRANSISTOR	2SC2785-HFE		
Q351	8-729-194-57	TRANSISTOR	2SC945-P		
Q352	8-729-194-57	TRANSISTOR	2SC945-P		
Q353	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q354	8-729-119-79	TRANSISTOR	2SC2785-HFE		
Q380	8-729-900-89	TRANSISTOR	DTC144ES		
Q381	8-729-900-65	TRANSISTOR	DTA144ES		
Q382	8-729-900-89	TRANSISTOR	DTC144ES		
Q401	8-729-119-79	TRANSISTOR	2SC2785-HFE		
Q450	8-729-900-65	TRANSISTOR	DTA144ES		
Q451	8-729-900-89	TRANSISTOR	DTC144ES		
Q701	8-729-620-05	TRANSISTOR	2SC2603-EF1		
Q820	8-729-422-57	TRANSISTOR	UN4111		
Q901	8-729-620-05	TRANSISTOR	2SC2603-EF1		
Q902	8-729-620-05	TRANSISTOR	2SC2603-EF1		
Q951	8-729-620-05	TRANSISTOR	2SC2603-EF1		
Q952	8-729-620-05	TRANSISTOR	2SC2603-EF1		
Q953	8-729-141-26	TRANSISTOR	2SC3622A-LK		
Q954	8-729-141-26	TRANSISTOR	2SC3622A-LK		
Q1001	8-729-118-01	TRANSISTOR	2SB1116-K		
Q1002	8-729-900-36	TRANSISTOR	DTC124ES		
Q1006	8-729-141-83	TRANSISTOR	2SB1094-LK		
Q1011	8-729-209-15	TRANSISTOR	2SD2012		
Q1201	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA		
Q1202	8-729-620-05	TRANSISTOR	2SC2603-EF1		
Q1203	8-729-119-76	TRANSISTOR	2SA1175-HFE		
Q1204	8-729-900-63	TRANSISTOR	DTA124ES		
Q1205	8-729-900-36	TRANSISTOR	DTC124ES		
Q1206	8-729-900-80	TRANSISTOR	DTC114ES		
Q1207	8-729-422-57	TRANSISTOR	UN4111		
Q1251	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA		
		< RESISTOR >			
R201	1-249-415-11	CARBON	680	5%	1/4W
R202	1-249-435-11	CARBON	33K	5%	1/4W
R203	1-249-425-11	CARBON	4.7K	5%	1/4W
R208	1-249-425-11	CARBON	4.7K	5%	1/4W
R251	1-249-415-11	CARBON	680	5%	1/4W
R252	1-249-435-11	CARBON	33K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R301	1-247-889-00	CARBON	270K	5%	1/4W
R302	1-249-404-00	CARBON	82	5%	1/4W
R303	1-247-882-11	CARBON	130K	5%	1/4W
R304	1-247-850-11	CARBON	6.2K	5%	1/4W
R311	1-247-889-00	CARBON	270K	5%	1/4W
R312	1-249-404-00	CARBON	82	5%	1/4W
R313	1-247-882-11	CARBON	130K	5%	1/4W
R314	1-247-850-11	CARBON	6.2K	5%	1/4W
R315	1-247-863-91	CARBON	22K	5%	1/4W
R320	1-249-432-11	CARBON	18K	5%	1/4W
R321	1-249-429-11	CARBON	10K	5%	1/4W
R322	1-249-431-11	CARBON	15K	5%	1/4W
R323	1-249-429-11	CARBON	10K	5%	1/4W
R324	1-249-425-11	CARBON	4.7K	5%	1/4W
R325	1-249-421-11	CARBON	2.2K	5%	1/4W
R326	1-249-428-11	CARBON	8.2K	5%	1/4W
R327	1-247-840-00	CARBON	2.4K	5%	1/4W
R328	1-247-863-91	CARBON	22K	5%	1/4W
R329	1-249-417-11	CARBON	1K	5%	1/4W
R331	1-249-430-11	CARBON	12K	5%	1/4W
R351	1-249-434-11	CARBON	27K	5%	1/4W
R352	1-249-434-11	CARBON	27K	5%	1/4W
R353	1-249-389-11	CARBON	4.7	5%	1/4W
R354	1-249-389-11	CARBON	4.7	5%	1/4W
R355	1-249-429-11	CARBON	10K	5%	1/4W
R381	1-249-413-11	CARBON	470	5%	1/4W
R382	1-249-413-11	CARBON	470	5%	1/4W
R383	1-249-413-11	CARBON	470	5%	1/4W
R384	1-249-413-11	CARBON	470	5%	1/4W
R387	1-249-417-11	CARBON	1K	5%	1/4W
R388	1-249-429-11	CARBON	10K	5%	1/4W
R390	1-249-417-11	CARBON	1K	5%	1/4W
⚠ R391	1-215-905-11	METAL OXIDE 10		5%	3W F
R401	1-247-889-00	CARBON	270K	5%	1/4W
R402	1-249-404-00	CARBON	82	5%	1/4W
R403	1-247-882-11	CARBON	130K	5%	1/4W
R404	1-247-850-11	CARBON	6.2K	5%	1/4W
R411	1-247-889-00	CARBON	270K	5%	1/4W
R412	1-249-404-00	CARBON	82	5%	1/4W
R413	1-247-882-11	CARBON	130K	5%	1/4W
R414	1-247-850-11	CARBON	6.2K	5%	1/4W
R415	1-247-863-91	CARBON	22K	5%	1/4W
R421	1-249-429-11	CARBON	10K	5%	1/4W
R422	1-249-431-11	CARBON	15K	5%	1/4W
R423	1-249-429-11	CARBON	10K	5%	1/4W
R424	1-249-425-11	CARBON	4.7K	5%	1/4W
R425	1-249-421-11	CARBON	2.2K	5%	1/4W
R426	1-249-428-11	CARBON	8.2K	5%	1/4W
R427	1-247-840-00	CARBON	2.4K	5%	1/4W
R428	1-247-863-91	CARBON	22K	5%	1/4W
R429	1-249-417-11	CARBON	1K	5%	1/4W
R431	1-249-430-11	CARBON	12K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN

Ref. No.	Part No.	Description			Remark
R450	1-249-429-11	CARBON	10K	5%	1/4W
R451	1-249-429-11	CARBON	10K	5%	1/4W
R452	1-249-429-11	CARBON	10K	5%	1/4W
R453	1-249-429-11	CARBON	10K	5%	1/4W
R454	1-249-429-11	CARBON	10K	5%	1/4W
R455	1-249-429-11	CARBON	10K	5%	1/4W
R456	1-249-429-11	CARBON	10K	5%	1/4W
R457	1-247-864-11	CARBON	24K	5%	1/4W
R458	1-249-429-11	CARBON	10K	5%	1/4W
R459	1-249-440-11	CARBON	82K	5%	1/4W
R460	1-247-862-11	CARBON	20K	5%	1/4W
R461	1-249-425-11	CARBON	4.7K	5%	1/4W
R462	1-249-425-11	CARBON	4.7K	5%	1/4W
R463	1-249-429-11	CARBON	10K	5%	1/4W
R464	1-249-429-11	CARBON	10K	5%	1/4W
R701	1-249-429-11	CARBON	10K	5%	1/4W
R702	1-249-437-11	CARBON	47K	5%	1/4W
R703	1-249-437-11	CARBON	47K	5%	1/4W
R704	1-249-429-11	CARBON	10K	5%	1/4W (H331)
R705	1-249-429-11	CARBON	10K	5%	1/4W
R706	1-249-429-11	CARBON	10K	5%	1/4W
R708	1-249-415-11	CARBON	680	5%	1/4W
R709	1-249-429-11	CARBON	10K	5%	1/4W
R712	1-249-429-11	CARBON	10K	5%	1/4W
R713	1-249-429-11	CARBON	10K	5%	1/4W
R714	1-249-429-11	CARBON	10K	5%	1/4W
R715	1-249-429-11	CARBON	10K	5%	1/4W
R716	1-247-807-31	CARBON	100	5%	1/4W
R717	1-247-807-31	CARBON	100	5%	1/4W
R718	1-247-807-31	CARBON	100	5%	1/4W
R719	1-247-807-31	CARBON	100	5%	1/4W
R720	1-247-807-31	CARBON	100	5%	1/4W
R721	1-247-807-31	CARBON	100	5%	1/4W
R724	1-247-807-31	CARBON	100	5%	1/4W
R725	1-247-807-31	CARBON	100	5%	1/4W
R726	1-247-807-31	CARBON	100	5%	1/4W
R727	1-247-807-31	CARBON	100	5%	1/4W
R728	1-247-807-31	CARBON	100	5%	1/4W
R729	1-247-807-31	CARBON	100	5%	1/4W
R730	1-247-807-31	CARBON	100	5%	1/4W
R731	1-247-807-31	CARBON	100	5%	1/4W
R732	1-247-807-31	CARBON	100	5%	1/4W
R733	1-247-807-31	CARBON	100	5%	1/4W
R734	1-247-807-31	CARBON	100	5%	1/4W
R735	1-247-807-31	CARBON	100	5%	1/4W
R736	1-247-807-31	CARBON	100	5%	1/4W
R737	1-247-807-31	CARBON	100	5%	1/4W
R738	1-249-423-11	CARBON	3.3K	5%	1/4W
R739	1-249-429-11	CARBON	10K	5%	1/4W
R740	1-247-863-91	CARBON	22K	5%	1/4W (AUS) (NEW TYPE)

Ref. No.	Part No.	Description			Remark
R740	1-249-423-11	CARBON	3.3K	5%	1/4W (AUS) (FORMER TYPE)
R740	1-249-425-11	CARBON	4.7K	5%	1/4W (E,MX,AR) (NEW TYPE)
R740	1-249-427-11	CARBON	6.8K	5%	1/4W (E,MX,AR) (FORMER TYPE)
R740	1-249-427-11	CARBON	6.8K	5%	1/4W (H331D)
R741	1-247-863-91	CARBON	22K	5%	1/4W (AUS) (NEW TYPE)
R741	1-249-425-11	CARBON	4.7K	5%	1/4W (H331D)
R741	1-249-425-11	CARBON	4.7K	5%	1/4W (E,MX,AR) (FORMER TYPE)
R741	1-249-427-11	CARBON	6.8K	5%	1/4W (E,MX,AR) (NEW TYPE)
R741	1-249-429-11	CARBON	10K	5%	1/4W (AUS) (FORMER TYPE)
R742	1-247-807-31	CARBON	100	5%	1/4W
R743	1-247-807-31	CARBON	100	5%	1/4W
R753	1-247-807-31	CARBON	100	5%	1/4W
R762	1-249-429-11	CARBON	10K	5%	1/4W
R763	1-249-429-11	CARBON	10K	5%	1/4W
R764	1-249-429-11	CARBON	10K	5%	1/4W
R771	1-249-429-11	CARBON	10K	5%	1/4W
R772	1-249-429-11	CARBON	10K	5%	1/4W
R773	1-249-429-11	CARBON	10K	5%	1/4W
R821	1-249-417-11	CARBON	1K	5%	1/4W
R822	1-249-441-11	CARBON	100K	5%	1/4W
R825	1-247-887-00	CARBON	220K	5%	1/4W
R826	1-249-441-11	CARBON	100K	5%	1/4W
R848	1-249-437-11	CARBON	47K	5%	1/4W (H331)
R849	1-249-437-11	CARBON	47K	5%	1/4W (H331)
R850	1-249-429-11	CARBON	10K	5%	1/4W (H331)
R871	1-249-417-11	CARBON	1K	5%	1/4W
R872	1-249-441-11	CARBON	100K	5%	1/4W
R901	1-249-425-11	CARBON	4.7K	5%	1/4W
R902	1-249-425-11	CARBON	4.7K	5%	1/4W
R904	1-249-431-11	CARBON	15K	5%	1/4W
R905	1-249-441-11	CARBON	100K	5%	1/4W
R906	1-247-892-11	CARBON	360K	5%	1/4W
R907	1-249-440-11	CARBON	82K	5%	1/4W
R908	1-247-863-91	CARBON	22K	5%	1/4W
R909	1-249-419-11	CARBON	1.5K	5%	1/4W
R910	1-249-429-11	CARBON	10K	5%	1/4W
R911	1-249-421-11	CARBON	2.2K	5%	1/4W
R912	1-249-441-11	CARBON	100K	5%	1/4W
R913	1-249-429-11	CARBON	10K	5%	1/4W
R914	1-249-437-11	CARBON	47K	5%	1/4W
R915	1-249-431-11	CARBON	15K	5%	1/4W
R920	1-249-441-11	CARBON	100K	5%	1/4W
R921	1-249-417-11	CARBON	1K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R922	1-249-429-11	CARBON	10K	5%	1/4W
R923	1-247-903-00	CARBON	1M	5%	1/4W
R938	1-247-807-31	CARBON	100	5%	1/4W
R940	1-249-429-11	CARBON	10K	5%	1/4W
R941	1-249-429-11	CARBON	10K	5%	1/4W
R942	1-249-429-11	CARBON	10K	5%	1/4W
R951	1-249-425-11	CARBON	4.7K	5%	1/4W
R952	1-249-425-11	CARBON	4.7K	5%	1/4W
R954	1-249-431-11	CARBON	15K	5%	1/4W
R955	1-249-441-11	CARBON	100K	5%	1/4W
R956	1-247-892-11	CARBON	360K	5%	1/4W
R957	1-249-440-11	CARBON	82K	5%	1/4W
R958	1-247-863-91	CARBON	22K	5%	1/4W
R959	1-249-419-11	CARBON	1.5K	5%	1/4W
R960	1-249-429-11	CARBON	10K	5%	1/4W
R961	1-249-421-11	CARBON	2.2K	5%	1/4W
R962	1-249-441-11	CARBON	100K	5%	1/4W
R963	1-249-429-11	CARBON	10K	5%	1/4W
R964	1-249-437-11	CARBON	47K	5%	1/4W
R965	1-249-431-11	CARBON	15K	5%	1/4W
R970	1-247-903-00	CARBON	1M	5%	1/4W
R973	1-247-903-00	CARBON	1M	5%	1/4W
R1001	1-249-421-11	CARBON	2.2K	5%	1/4W
R1002	1-247-815-91	CARBON	220	5%	1/4W
R1011	1-249-421-11	CARBON	2.2K	5%	1/4W
R1023	1-249-417-11	CARBON	1K	5%	1/4W
R1201	1-249-417-11	CARBON	1K	5%	1/4W
R1202	1-249-437-11	CARBON	47K	5%	1/4W
R1203	1-249-414-11	CARBON	560	5%	1/4W
R1204	1-249-437-11	CARBON	47K	5%	1/4W
R1205	1-260-103-11	CARBON	2.2K	5%	1/2W
R1207	1-260-103-11	CARBON	2.2K	5%	1/2W
⚠ R1210	1-208-602-11	WIREWOUND	0.22	10%	2W F
R1211	1-249-417-11	CARBON	1K	5%	1/4W
R1212	1-249-431-11	CARBON	15K	5%	1/4W
R1213	1-249-441-11	CARBON	100K	5%	1/4W
R1214	1-260-099-11	CARBON	1K	5%	1/2W
R1217	1-260-099-11	CARBON	1K	5%	1/2W
R1218	1-260-076-11	CARBON	10	5%	1/2W
R1222	1-249-407-11	CARBON	150	5%	1/4W
R1223	1-249-407-11	CARBON	150	5%	1/4W
R1224	1-249-429-11	CARBON	10K	5%	1/4W
R1225	1-249-429-11	CARBON	10K	5%	1/4W
⚠ R1226	1-216-452-11	METAL OXIDE	180	5%	2W F
R1227	1-249-429-11	CARBON	10K	5%	1/4W
R1228	1-247-891-00	CARBON	330K	5%	1/4W
R1229	1-249-429-11	CARBON	10K	5%	1/4W
R1230	1-249-429-11	CARBON	10K	5%	1/4W
R1231	1-249-417-11	CARBON	1K	5%	1/4W
R1233	1-249-425-11	CARBON	4.7K	5%	1/4W
R1234	1-249-425-11	CARBON	4.7K	5%	1/4W
R1235	1-249-435-11	CARBON	33K	5%	1/4W
R1236	1-249-441-11	CARBON	100K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R1237	1-249-429-11	CARBON	10K	5%	1/4W
R1240	1-249-438-11	CARBON	56K	5%	1/4W
R1241	1-247-791-91	CARBON	22	5%	1/4W
R1242	1-249-429-11	CARBON	10K	5%	1/4W
R1243	1-249-383-11	CARBON	1.5	5%	1/6W
R1245	1-247-863-91	CARBON	22K	5%	1/4W
R1250	1-249-421-11	CARBON	2.2K	5%	1/4W
R1251	1-249-417-11	CARBON	1K	5%	1/4W
R1252	1-249-437-11	CARBON	47K	5%	1/4W
R1253	1-249-414-11	CARBON	560	5%	1/4W
R1254	1-249-437-11	CARBON	47K	5%	1/4W
R1255	1-260-103-11	CARBON	2.2K	5%	1/2W
R1257	1-260-103-11	CARBON	2.2K	5%	1/2W
⚠ R1260	1-208-602-11	WIREWOUND	0.22	10%	2W F
R1261	1-249-417-11	CARBON	1K	5%	1/4W
R1262	1-249-431-11	CARBON	15K	5%	1/4W
R1263	1-249-441-11	CARBON	100K	5%	1/4W
R1268	1-260-076-11	CARBON	10	5%	1/2W
R1272	1-249-407-11	CARBON	150	5%	1/4W
R1273	1-249-407-11	CARBON	150	5%	1/4W
R1290	1-249-437-11	CARBON	47K	5%	1/4W
R1295	1-247-863-91	CARBON	22K	5%	1/4W
R1303	1-249-425-11	CARBON	4.7K	5%	1/4W
R1304	1-249-425-11	CARBON	4.7K	5%	1/4W

< VARIABLE RESISTOR >

RV301	1-238-600-11	RES, ADJ, CARBON 10K(PB LEVEL L:DECK A)
RV302	1-238-600-11	RES, ADJ, CARBON 10K(PB LEVEL L:DECK B)
RV303	1-238-600-11	RES, ADJ, CARBON 10K(REC LEVEL L:DECK B)
RV304	1-238-603-11	RES, ADJ, CARBON 100K (BIAS L)
RV380	1-238-599-11	RES, ADJ, CARBON 4.7K (SPEED)
RV401	1-238-600-11	RES, ADJ, CARBON 10K(PB LEVEL R:DECK A)
RV402	1-238-600-11	RES, ADJ, CARBON 10K(PB LEVEL R:DECK B)
RV403	1-238-600-11	RES, ADJ, CARBON 10K(REC LEVEL R:DECK B)
RV404	1-238-603-11	RES, ADJ, CARBON 100K (BIAS R)

< RELAY >

RY1201	1-515-921-11	RELAY (12V)

< TRANSFORMER >

T350	1-433-349-11	TRANSFORMER, BIAS OSCILLATION

< TERMINAL >

TM1201	1-537-925-41	TERMINAL BOARD (SPEAKER)

< VIBRATOR >

X701	1-579-175-11	VIBRATOR, CERAMIC (10MHz)
X702	1-567-098-41	VIBRATOR, CRYSTAL (32MHz)

****

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MOTOR (SLIDE) MOTOR (TURN) PANEL

Ref. No.	Part No.	Description			Remark
*	1-658-578-11	MOTOR (SLIDE) BOARD			
		**********			
		< CAPACITOR >			
C801	1-162-306-11	CERAMIC	0.01uF	30% 16V	
C804	1-162-306-11	CERAMIC	0.01uF	30% 16V	
C805	1-126-964-11	ELECT	10uF	20% 50V	
		< CONNECTOR >			
* CN801	1-568-947-11	PIN, CONNECTOR 9P			
		< DIODE >			
D801	8-719-010-43	DIODE UZ-5.6BSC-TP			
		< IC >			
IC801	8-759-274-09	IC BA6286N			
		< RESISTOR >			
R801	1-249-401-11	CARBON	47	5% 1/4W	
		< SWITCH >			
S801	1-762-527-11	SWITCH, ROTARY (OPEN SW)			
**********					
*	1-658-577-11	MOTOR (TURN) BOARD			
		**********			
		< CAPACITOR >			
C701	1-162-306-11	CERAMIC	0.01uF	30% 16V	
C702	1-126-964-11	ELECT	10uF	20% 50V	
C705	1-162-306-11	CERAMIC	0.01uF	30% 16V	
		< CONNECTOR >			
CN703	1-750-413-11	CONNECTOR, FFC/FPC 8P			
CN704	1-506-469-11	PIN, CONNECTOR 4P			
		< DIODE >			
D701	8-719-010-23	DIODE UZ-3.6BSB			
		< IC >			
IC701	8-759-633-65	IC M54641L			
		< RESISTOR >			
R706	1-249-411-11	CARBON	330	5% 1/4W	
**********					
*	A-4389-137-A	PANEL BOARD, COMPLETE			
		**********			
*	4-932-810-11	CUSHION (FL)			
*	4-978-168-01	HOLDER, FL TUBE			

Ref. No.	Part No.	Description			Remark
		< CAPACITOR >			
C501	1-162-282-31	CERAMIC	100PF	10% 50V	
C502	1-162-282-31	CERAMIC	100PF	10% 50V	
C503	1-162-282-31	CERAMIC	100PF	10% 50V	
C504	1-162-282-31	CERAMIC	100PF	10% 50V	
C505	1-162-282-31	CERAMIC	100PF	10% 50V	
C506	1-162-282-31	CERAMIC	100PF	10% 50V	
C507	1-162-282-31	CERAMIC	100PF	10% 50V	
C508	1-162-282-31	CERAMIC	100PF	10% 50V	
C509	1-162-282-31	CERAMIC	100PF	10% 50V	
C510	1-162-282-31	CERAMIC	100PF	10% 50V	
C511	1-162-282-31	CERAMIC	100PF	10% 50V	
C512	1-162-282-31	CERAMIC	100PF	10% 50V	
C513	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C514	1-126-967-11	ELECT	47uF	20% 50V	
C515	1-162-306-11	CERAMIC	0.01uF	30% 16V	
C516	1-124-584-00	ELECT	100uF	20% 10V	
C517	1-162-306-11	CERAMIC	0.01uF	30% 16V	
C522	1-162-306-11	CERAMIC	0.01uF	30% 16V	
C523	1-162-306-11	CERAMIC	0.01uF	30% 16V	
C524	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C525	1-124-903-11	ELECT	1uF	20% 50V	
C526	1-162-294-31	CERAMIC	0.001uF	10% 50V	
C527	1-124-903-11	ELECT	1uF	20% 50V	
		< CONNECTOR >			
* CN501	1-568-858-11	SOCKET, CONNECTOR 15P			
		< DIODE >			
D548	8-719-033-06	LED	SEL5920A (CLIP A)		
D549	8-719-033-06	LED	SEL5920A (CLIP B)		
D550	8-719-812-44	LED	TLO124 (ENTER/NEXT)		
D560	8-719-010-40	DIODE	UZ-5.6BS		
D578	8-719-058-03	LED	SEL5423E (TIMER/BAND)		
D580	8-719-812-44	LED	TLO124 (EFFECT ON/OFF)		
D581	8-719-033-06	LED	SEL5920A (GROOVE)		
D582	8-719-033-06	LED	SEL5920A (CLIP C)		
D605	8-719-033-06	LED	SEL5920A (CD)		
D615	8-719-033-06	LED	SEL5920A (TUNER)		
D625	8-719-033-06	LED	SEL5920A (TIMER)		
		< INDICATOR TUBE >			
FL501	1-517-489-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC501	8-759-375-45	IC ASD042			
IC502	8-759-332-18	IC GP1U27XB			
		< TRANSISTOR >			
Q501	8-729-119-76	TRANSISTOR 2SA1175-HFE			

Ref. No.	Part No.	Description		Remark
Q502	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q503	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q504	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q507	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q508	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q509	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q510	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q520	8-729-422-57	TRANSISTOR	UN4111	
Q521	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q522	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q530	8-729-422-57	TRANSISTOR	UN4111	
Q601	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q602	8-729-119-76	TRANSISTOR	2SA1175-HFE	
Q603	8-729-119-76	TRANSISTOR	2SA1175-HFE	
		< RESISTOR >		
R500	1-249-419-11	CARBON	1.5K 5%	1/4W
R509	1-249-419-11	CARBON	1.5K 5%	1/4W
R510	1-249-401-11	CARBON	47 5%	1/4W
R511	1-249-403-11	CARBON	68 5%	1/4W
R512	1-247-807-31	CARBON	100 5%	1/4W
R513	1-249-407-11	CARBON	150 5%	1/4W
R514	1-249-407-11	CARBON	150 5%	1/4W
R515	1-247-791-91	CARBON	22 5%	1/4W
R516	1-249-417-11	CARBON	1K 5%	1/4W
R517	1-249-415-11	CARBON	680 5%	1/4W
R518	1-249-417-11	CARBON	1K 5%	1/4W
R519	1-249-419-11	CARBON	1.5K 5%	1/4W
R520	1-249-421-11	CARBON	2.2K 5%	1/4W
R521	1-249-423-11	CARBON	3.3K 5%	1/4W
R522	1-249-427-11	CARBON	6.8K 5%	1/4W
R523	1-249-431-11	CARBON	15K 5%	1/4W
R524	1-249-419-11	CARBON	1.5K 5%	1/4W
R525	1-249-401-11	CARBON	47 5%	1/4W
R526	1-249-403-11	CARBON	68 5%	1/4W
R527	1-247-807-31	CARBON	100 5%	1/4W
R528	1-249-407-11	CARBON	150 5%	1/4W
R529	1-249-407-11	CARBON	150 5%	1/4W
R530	1-247-815-91	CARBON	220 5%	1/4W
R531	1-249-419-11	CARBON	1.5K 5%	1/4W
R532	1-249-401-11	CARBON	47 5%	1/4W
R533	1-249-403-11	CARBON	68 5%	1/4W
R534	1-247-807-31	CARBON	100 5%	1/4W
R535	1-249-407-11	CARBON	150 5%	1/4W
R536	1-249-407-11	CARBON	150 5%	1/4W
R537	1-247-815-91	CARBON	220 5%	1/4W
R538	1-249-411-11	CARBON	330 5%	1/4W
R539	1-247-863-91	CARBON	22K 5%	1/4W
R540	1-249-429-11	CARBON	10K 5%	1/4W
R544	1-249-429-11	CARBON	10K 5%	1/4W
R545	1-249-421-11	CARBON	2.2K 5%	1/4W
R546	1-249-429-11	CARBON	10K 5%	1/4W

Ref. No.	Part No.	Description		Remark
R547	1-249-421-11	CARBON	2.2K 5%	1/4W
R548	1-249-407-11	CARBON	150 5%	1/4W
R549	1-249-407-11	CARBON	150 5%	1/4W
R550	1-249-407-11	CARBON	150 5%	1/4W
R557	1-247-807-31	CARBON	100 5%	1/4W
R558	1-247-807-31	CARBON	100 5%	1/4W
R559	1-247-807-31	CARBON	100 5%	1/4W
R560	1-247-807-31	CARBON	100 5%	1/4W
R561	1-247-807-31	CARBON	100 5%	1/4W
R562	1-247-807-31	CARBON	100 5%	1/4W
R563	1-249-441-11	CARBON	100K 5%	1/4W
R564	1-249-401-11	CARBON	47 5%	1/4W
R565	1-249-429-11	CARBON	10K 5%	1/4W
R566	1-249-429-11	CARBON	10K 5%	1/4W
R567	1-249-429-11	CARBON	10K 5%	1/4W
R568	1-249-429-11	CARBON	10K 5%	1/4W
R569	1-249-429-11	CARBON	10K 5%	1/4W
R570	1-249-441-11	CARBON	100K 5%	1/4W
R571	1-249-429-11	CARBON	10K 5%	1/4W
R572	1-249-429-11	CARBON	10K 5%	1/4W
R573	1-249-429-11	CARBON	10K 5%	1/4W
R574	1-249-429-11	CARBON	10K 5%	1/4W
R576	1-249-429-11	CARBON	10K 5%	1/4W
R577	1-247-903-00	CARBON	1M 5%	1/4W
R578	1-249-401-11	CARBON	47 5%	1/4W
R580	1-249-407-11	CARBON	150 5%	1/4W
R581	1-247-807-31	CARBON	100 5%	1/4W
R582	1-249-407-11	CARBON	150 5%	1/4W
R585	1-249-421-11	CARBON	2.2K 5%	1/4W
R586	1-247-807-31	CARBON	100 5%	1/4W
R587	1-247-807-31	CARBON	100 5%	1/4W
R588	1-247-807-31	CARBON	100 5%	1/4W
R605	1-247-807-31	CARBON	100 5%	1/4W
R615	1-247-807-31	CARBON	100 5%	1/4W
R625	1-247-807-31	CARBON	100 5%	1/4W
R631	1-249-417-11	CARBON	1K 5%	1/4W
R632	1-249-417-11	CARBON	1K 5%	1/4W
R633	1-249-417-11	CARBON	1K 5%	1/4W
		< SWITCH >		
S509	1-762-196-21	SWITCH, TACT (TIMER)		
S510	1-762-196-21	SWITCH, TACT (DISPLAY)		
S511	1-762-196-21	SWITCH, TACT (MULTI FUNCTION CONTROL)		
S512	1-762-196-21	SWITCH, TACT (MULTI FUNCTION CONTROL)		
S513	1-762-196-21	SWITCH, TACT (MULTI FUNCTION CONTROL)		
S514	1-762-196-21	SWITCH, TACT (MULTI FUNCTION CONTROL)		
S516	1-762-196-21	SWITCH, TACT (ENTER/NEXT)		
S517	1-762-196-21	SWITCH, TACT (DBFB)		
S518	1-762-196-21	SWITCH, TACT (CLIP C)		
S519	1-762-196-21	SWITCH, TACT (CLIP B)		
S520	1-762-196-21	SWITCH, TACT (CLIP A)		
S521	1-762-196-21	SWITCH, TACT (CLIP ERASE)		

PANEL SENSOR TRANSFORMER

Ref. No.	Part No.	Description	Remark
S522	1-762-196-21	SWITCH, TACT (DOLBY NR)	
S524	1-762-196-21	SWITCH, TACT (MENU 1)	
S525	1-762-196-21	SWITCH, TACT (MENU 2)	
S526	1-762-196-21	SWITCH, TACT (MENU 3)	
S528	1-762-196-21	SWITCH, TACT (P FILE)	
S529	1-762-196-21	SWITCH, TACT (EFFECT ON/OFF)	
S530	1-762-196-21	SWITCH, TACT (SURROUND)	
S531	1-762-196-21	SWITCH, TACT (EQ EDIT)	
S532	1-762-196-21	SWITCH, TACT (◁)	
S533	1-762-196-21	SWITCH, TACT (△)	
S534	1-762-196-21	SWITCH, TACT (▷)	
S535	1-762-196-21	SWITCH, TACT (▽)	
S536	1-762-196-21	SWITCH, TACT (TUNER/BAND)	
S537	1-762-196-21	SWITCH, TACT (FUNCTION)	
S538	1-762-196-21	SWITCH, TACT (GROOVE)	
S550	1-467-869-11	ENCODER, ROTARY (VOLUME)	
		< VIBRATOR >	
X501	1-579-233-11	VIBRATOR, CERAMIC (5MHz)	
**********			
*	1-658-576-11	SENSOR BOARD	
		**********	
		< IC >	
IC702	8-749-924-18	IC PHOTO INTERRUPTER RPI-1391	
IC703	8-749-924-30	IC PHOTO REFLECTOR GP2S28	
		< RESISTOR >	
R701	1-249-416-11	CARBON 820 5% 1/4W	
R702	1-249-407-11	CARBON 150 5% 1/4W	
**********			
*	1-659-148-11	TRANSFORMER BOARD	
		**********	
	1-533-217-31	HOLDER, FUSE	
		< CONNECTOR >	
CN1601	1-564-321-00	PIN, CONNECTOR 2P	
CN1602	1-691-768-11	PLUG (MICRO CONNECTOR) 6P	
		< FUSE >	
⚠ F1601	1-532-350-00	FUSE, TIME LAG (T4.0A/250V) (E,AUS,MX,AR)	
⚠ F1601	1-533-419-11	FUSE, GLASS CYLINDRICAL(DIA.5)(4.0A/125V)	(US,Canadian)
⚠ F1602	1-532-350-00	FUSE, TIME LAG (T4.0A/250V) (E,AUS,MX,AR)	
⚠ F1602	1-533-419-11	FUSE, GLASS CYLINDRICAL(DIA.5)(4.0A/125V)	(US,Canadian)
		< RESISTOR >	
⚠ R1600	1-202-725-00	SOLID 3.3M 10% 1/2W	(US,Canadian)
⚠ R1601	1-217-637-00	FUSIBLE 1 5% 1/4W F	
		< SWITCH >	
⚠ S1601	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (E,AR)	
**********			
		MISCELLANEOUS	
		**********	
7	1-233-544-11	ENCAPSULATED COMPONENT	(US, Canadian,MX)
7	1-233-545-11	ENCAPSULATED COMPONENT (E,AUS,AR)	
9	1-769-977-11	WIRE (FLAT TYPE) (13 CORE)	
11	1-776-240-11	WIRE (FLAT TYPE) (19 CORE)	
⚠ 13	1-575-651-11	CORD, POWER (AR)	
⚠ 13	1-575-653-11	CORD, POWER (E,MX)	
⚠ 13	1-690-608-11	CORD, POWER (AUS)	
⚠ 13	1-690-609-21	CORD, POWER (US,Canadian)	
65	1-773-020-11	WIRE (FLAT TYPE) (15 CORE)	
121	1-698-705-11	MOTOR, WIRE	
151	1-500-322-11	HEAD, WIRE (E) (DECK B)	
153	1-500-319-11	HEAD, HOLDER (DECK B)	
155	1-500-320-11	HEAD, WIRE R/P (DECK B)	
156	1-500-321-11	HEAD, WIRE P.B (DECK A)	
214	1-762-610-11	SWITCH, PLATE	
215	1-762-613-11	SWITCH, WIRE LEAF (DECK A)	
216	1-762-612-11	SWITCH, WIRE LEAF (DECK B)	
307	1-452-538-11	MAGNET	
308	1-776-042-11	WIRE (FLAT TYPE) (8 CORE)	
316	1-776-442-11	WIRE (FLAT TYPE) (19 CORRE)	
⚠ 351	8-848-367-11	OPTICAL PICK-UP KSS-213BA/F-NP	
352	1-769-069-11	WIRE (FLAT TYPE) (16 CORE)	
⚠ F1601	1-532-350-00	FUSE, TIME LAG (T4.0A/250V) (E,AUS,MX,AR)	
⚠ F1601	1-533-419-11	FUSE, GLASS CYLINDRICAL(DIA.5)(4.0A/125V)	(US,Canadian)
⚠ F1602	1-532-350-00	FUSE, TIME LAG (T4.0A/250V) (E,AUS,MX,AR)	
⚠ F1602	1-533-419-11	FUSE, GLASS CYLINDRICAL(DIA.5)(4.0A/125V)	(US,Canadian)
FL501	1-517-489-11	INDICATOR TUBE, FLUORESCENT	
HE1	1-500-318-11	HEAD, E (ERASE)(DECK B)	
HP1	1-543-424-21	HEAD (PLAYBACK) (DECK A)	
HRPE1	1-543-424-21	HEAD (RECORD/PLAYBACK) (DECK B)	
M1	X-3372-231-1	MOTOR ASSY (CAPSTAN/REEL)	
M101	X-4917-523-4	BASE OUTSERT ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M701	A-4660-586-A	MOTOR ASSY (TURN)	
M801	A-4660-586-A	MOTOR ASSY (SLIDE)	
S1	1-571-556-11	SWITCH, LEAF (MOTOR) (DECK A)	
S2	1-571-745-11	SWITCH, LEAF (PLAY) (DECK A)	
S3	1-762-611-11	SWITCH, LEAF (TYPE 2) (DECK A)	
S4	1-571-556-11	SWITCH, LEAF (MOTOR) (DECK B)	
S5	1-571-745-11	SWITCH, LEAF (PLAY) (DECK B)	
S6	1-762-611-11	SWITCH, LEAF (TYPE 2) (DECK B)	
S7	1-571-556-11	SWITCH, LEAF (REC) (DECK B)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remark
S101	1-572-085-11	SWITCH, LEAF (LIMIT SW)	
S851	1-473-335-11	ENCODER, ROTARY	
⚠ T1001	1-429-309-11	TRANSFORMER, POWER (US,Canadian)	
⚠ T1001	1-429-342-11	TRANSFORMER, POWER (E,AUS,MX,AR)	

****

ACCESSORIES & PACKING MATERIALS
****

*	4-981-029-01	CUSHION (FRONT)	
*	4-981-030-01	CUSHION (REAR)	

****

****
HARDWARE LIST
****

#1	7-682-548-04	SCREW +BVTT 3X8 (S)	
#2	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
#3	7-621-770-87	SCREW +PTT 2.6X5 (S)	
#4	7-685-782-01	SCREW +PTT 2X5 (S)	
#5	7-621-773-86	SCRTEWTOTSU PTTWH 2.6X4	
#6	7-621-255-25	SCREW +PTT 2X4 (S)	
#7	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT	
#8	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#9	7-621-255-15	SCREW +P 2X3	
#10	7-621-775-10	SCREW +B 2.6X4	

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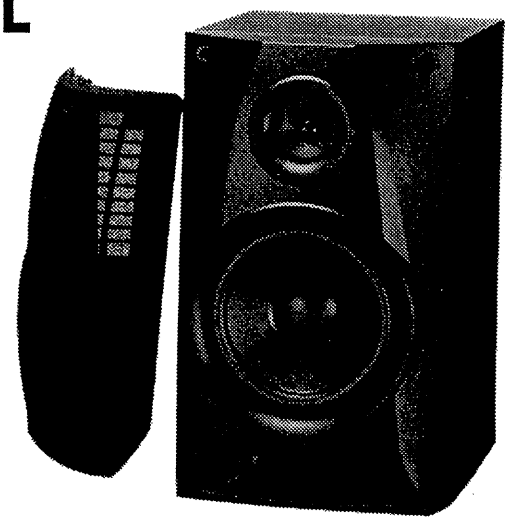
Home A&V Products Div.

9-960-572-11

SS-H551

SERVICE MANUAL



US Model
Canadian Model
AEP Model
UK Model
E Model
Australian Model
Tourist Model

This set is the speaker system in MHC-551/G55/331/D2/G33.

SPECIFICATIONS

Speaker system	2-way system, bass reflex type
Speaker units	Woofer : 15 cm dia., cone type
	Tweeter : 5 cm dia., cone type
Nominal impedance	6 ohms
Dimensions	Approx. 195 × 325 × 275 mm (7 3/4 × 12 7/8 × 10 7/8 in)(w/h/d)
Mass	Approx. 3.5 kg (7 lb 11oz) per speaker

Design and specifications are subject to change without notice.

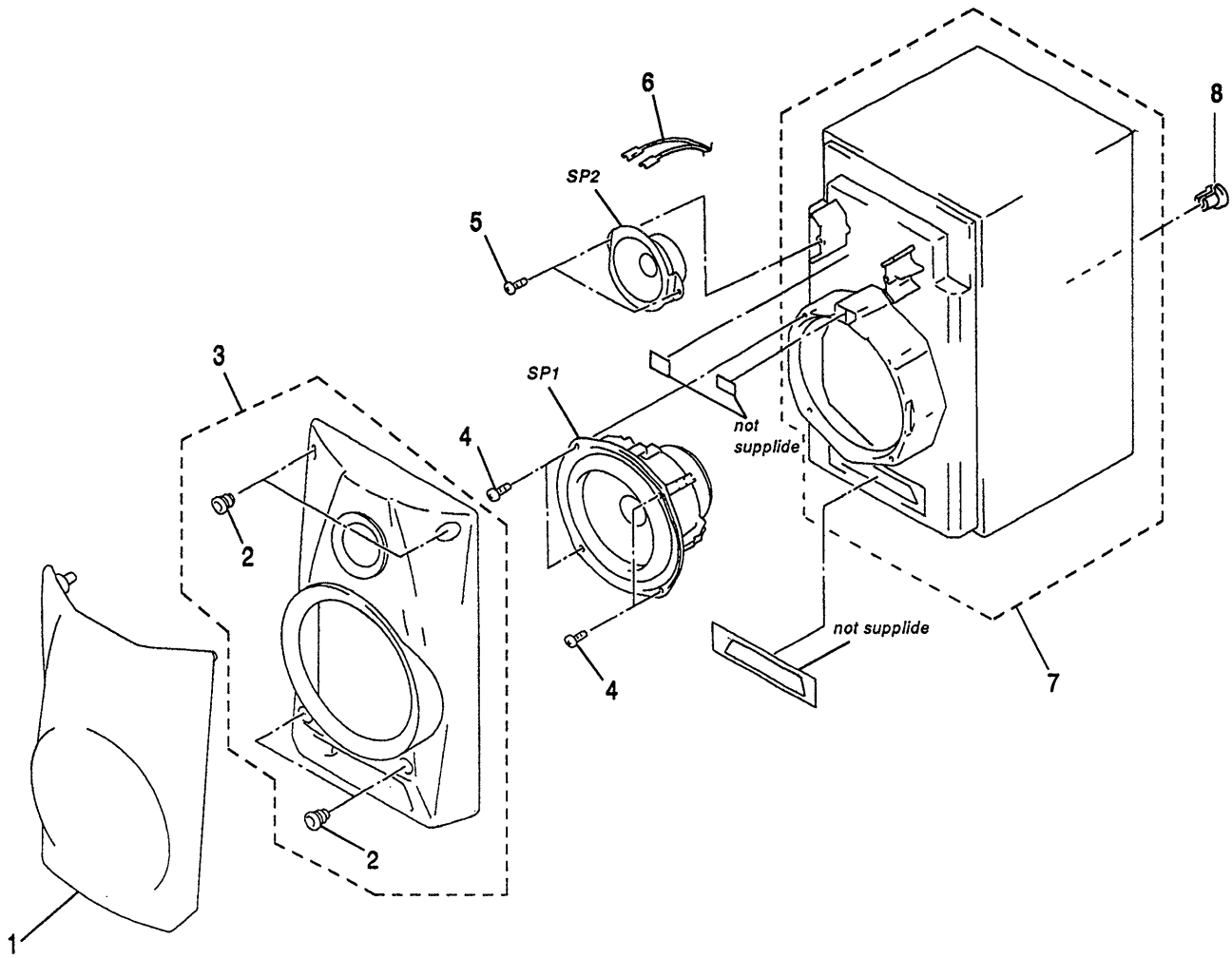
2-WAY SPEAKER SYSTEM

SONY®

EXPLODED VIEW AND PARTS LIST

NOTE :

- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Abbreviation
  G : German
  AED : Finland, Norway, Denmark, Sweden



Ref. No.	Part No.	Description	Remark
1	X-4946-809-1	FRAME ASSY, GRILLE	
2	4-951-733-01	CATCHER	
3	X-4946-808-1	PANEL ASSY, FRONT	
4	4-949-145-01	SCREW +BVTP 3.5×18	
5	7-685-646-79	SCREW +BVTP 3×8	
6	1-776-516-11	CORD, SPEAKER	
7	A-4361-943-A	CABINET ASSY, SPEAKER (G, AED)	
7	A-4361-945-A	CABINET ASSY, SPEAKER (EXCEPT G, AED)	
8	4-942-138-01	CLAMP	
SP1	1-505-235-11	SPEAKER (15cm)	
SP2	1-505-227-11	SPEAKER (5cm) (EXCEPT INDONESIAN)	
SP2	1-505-229-11	SPEAKER (5cm) (INDONESIAN)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
*	4-981-329-01	CUSHION	

9-960-586-11

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